1-1-2016

Factors Associated With Primary Care Providers' Willingness To Deliver Routine And Transition Care To Transgender Individuals

Deirdre Aisling Shires
Wayne State University,

FACTORS ASSOCIATED WITH PRIMARY CARE PROVIDERS' WILLINGNESS TO DELIVER ROUTINE AND TRANSITION CARE TO TRANSGENDER INDIVIDUALS

by

DEIRDRE A. SHIRES

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

2016

MAJOR: SOCIAL WORK

Approved By:

Kim Jaffee
Advisor Date

Debra Patterson

Jun Sung Hong

Michael Woodford

DEDICATION

This study is dedicated to my wife and sons: Kris, Gus, and Gabe.

ACKNOWLEDGEMENTS

I wish to acknowledge my dissertation committee for their thoughtful comments and insight on this project. I would especially like to acknowledge my dissertation advisor, Kim Jaffee, for her wisdom, patience, and guidance throughout both the dissertation process and my doctoral education. In addition, I wish to thank Daphna Stroumsa for her willingness to collaborate and for bringing her clinical expertise and other talents to this study.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

Background

Due to widespread stigmatization of the transgender population and cultural assumptions about gender (Bauer et al., 2009), most healthcare providers and medical staff have not received adequate training to meet the unique needs of this marginalized group (Advisory Committee on Sexual Orientation, 2014; Sanchez, Rabatin, Sanchez, Hubbard, & Kalet, 2006). Consistent with trends towards patient-centered care and shared decision-making (Sheridan, Harris, Woolf, & Force, 2004; Stiggelbout et al., 2012), professional organizations and others have recently released policy and practice recommendations for providing culturally competent care to transgender patients (Advisory Committee on Sexual Orientation, 2014; Legal, 2014). Yet, very little is known about healthcare providers' experience of providing care to transgender patients, their attitudes and knowledge about transgender health, their willingness to serve this population, or how the health system context influences physicians' capacity to provide transgender-sensitive care.

According to the National Association of Social Workers' (NASW) Code of Ethics, addressing discrimination that is based on gender identity or expression is one obligation of the social work profession (National Association of Social Workers, 2008), and the experiences of bias that transgender individuals face when seeking medical attention suggest that there are major disparities in healthcare access and quality for this population. In one national study, nearly one quarter of transgender individuals reported being denied health care services outright, and nearly half of transgender patients who did receive care did not reveal their gender identity status to their healthcare providers or disclosed to only some providers due to fears of experiencing bias or being denied care (Grant et al., 2011). Thus, it is not surprising that

transgender individuals report delaying or avoiding seeking care for illnesses or injuries (Grant, Mottet, & Tanis, 2010) and may seek health care only for gender transition-related services (Jenner, 2010).

This study used an adapted Theory of Planned Behavior to examine health care providers' willingness to care for transgender individuals. Specifically, the purpose of this study was to examine factors associated with primary care and women's health providers' willingness to provide both routine and transition care for transgender patients. Findings from this study can be used to 1) identify high priority health system policy and procedural changes that are likely to have the greatest impact on transgender care quality; 2) design interventions for healthcare personnel; 3) point to implications for medical education; and 4) identify avenues for social work professionals to advocate for this marginalized population.

Study Aims

Transgender individuals face a number of barriers when accessing healthcare, and there are a number of gaps in the literature related to healthcare providers' willingness to provide routine and transition care to this population. Thus, the aims of this study are as follows:

1. To determine the association between provider characteristics, personal and clinical exposure, transphobia, empathetic attitudes towards transgender patients, and transgender care-related self-efficacy on willingness to *provide routine care* to transgender patients.

   H_1: When provider characteristics are controlled, increased personal and clinical exposure, decreased transphobia, increased empathy attitudes, increased self-efficacy will be positively associated with willingness to provide routine care to transgender individuals.

2. To determine the association between provider characteristics, personal and clinical exposure, transphobia, empathetic attitudes towards transgender patients, and transgender care-related self-efficacy on willingness to *continue hormone therapy* for transgender patients.

   H_2: When provider characteristics are controlled, increased personal and clinical exposure, decreased transphobia, increased empathetic attitudes, increased self-efficacy, and increased facilitators will be positively associated with willingness to continue hormone therapy for transgender individuals.

3. To determine the association between provider characteristics, personal and clinical exposure, transphobia, empathetic attitudes towards transgender patients, and transgender care-related self-efficacy on willingness to *initiate hormone therapy* for transgender patients.

   H_2: When provider characteristics are controlled, increased personal and clinical exposure, decreased transphobia, increased empathy attitudes, and increased self-efficacy will be positively associated with willingness to initiate hormone therapy for transgender individuals.

Significance

This study is the first to explore factors that predict healthcare providers' willingness to provide both routine and transition care to transgender individuals. By leveraging well established constructs that predict behavioral intentions (i.e., the Theory of Planned Behavior), this study is well positioned to provide unique insight into what barriers and facilitators (i.e., factors related to self-efficacy) limit healthcare providers' willingness to care for transgender patients as well as how to alleviate those barriers. Findings from this study will inform where

best to intervene with medical professionals in order to improve health care quality for the transgender population, in terms of education, training, policies, procedures, and health system culture.

Social Work Implications

Social workers can increasingly be found providing care to patients in medical settings. Knowing barriers that healthcare providers may face in providing care to transgender patients is critical for social workers who are part of healthcare teams. Social workers are well positioned to advocate for vulnerable populations, and increasing evidence suggests that transgender persons are at risk for being denied basic health care as well as transition services, which may be critical for their wellbeing. Results of this study may point to the importance of the advocacy role that social workers can play in medical settings on behalf of vulnerable populations. In addition, social workers may often play a role either in providing counseling or therapy to transgender individuals, and they may also be in a position to assist in the coordination of medical transition care.

In addition, social workers are at the forefront of developing cultural competence trainings, guidelines, and curricula, and are also in a position to provide training, education, and advocacy in medical settings. As social workers have become more involved in providing services in integrated healthcare settings, they will also become more involved in ensuring that medical care is culturally competent and equitable. The NASW Code of Ethics specifies that addressing discrimination due to gender identity (among other marginalized statuses) is one obligation of the social work profession (National Association of Social Workers, 2008). Nowhere is this need more critical than in the availability of basic and transition health care for transgender individuals.

CHAPTER 2: LITERATURE REVIEW

The transgender population can be defined as those who identify conflict between their current gender identity and their assigned sex at birth (Kenagy, 2005). Although the transgender population is diverse in terms of gender identity, it may include both individuals who were assigned male at birth but identify as female (MTF) as well as those who were assigned female at birth but identify as male (FTM). The transgender population is arguably one of the most marginalized minority groups in the United States. In this chapter, the health care needs of the transgender population and healthcare discrimination experiences reported by transgender patients will be explored. In addition, provider-level factors, including transgender-care related self-efficacy, affecting care delivery to the transgender population will be described. Finally, gaps in the literature will be elucidated, particularly as they pertain to healthcare providers' willingness to provide both routine care and medical transition care for the transgender population.

Healthcare Needs of the Transgender Population

Medical Transition Care

Many transgender individuals either seek or would like to seek some type of transition care so that their physical characteristics and presentation match their gender identity (Davidson, 2007). Transition care may involve a number of different services, procedures, and medications, including hair removal, cosmetic changes, and voice coaching. *Medical* transition care generally includes counseling, cross-sex hormone treatment, and/or surgery. Several organizations have published guidelines to direct health and mental health providers in assisting patients with the transition process, including the Endocrine Society (Hembree et al., 2009) and the World Professional Association of Transgender Health or WPATH (Coleman et al., 2012).

These guidelines are based on expert opinion and give guidance on the transition process, including both mental health care and transition care. The transition process involves five progressive stages, some of which may happen concurrently, and not all transgender individuals complete every stage. These stages include 1) diagnosis of gender dysphoria by a licensed mental health professional; 2) counseling; 3) real-life experience living as one's non-birth sex; 4) cross-sex hormone treatment; and 5) surgery (Wilczynski & Emanuele, 2014).

Available surgeries for transgender men and women include procedures such as facial feminization (for transwomen), chest surgery (breast removal or breast augmentation), hysterectomy (for transmen) and alteration of genitalia (metoidioplasty, scrotoplasty, phalloplasty, orchiectomy, and vaginoplasty) (Erickson‐Schroth, Bowers, & Carmel, 2015). Somewhat more accessible in terms of both cost and availability – and more commonly used (Grant et al., 2011) - is cross-sex hormone treatment. Hormone treatment for FTM patients includes testosterone injections given at regular intervals (usually every two weeks), sometimes with complementary androgen gel or patches. The goal of hormone treatment for FTM patients is essentially to induce virilization (lower voice, cessation of menses, and produce male-pattern hair growth) (Gooren, 2014). For transgender women, hormone treatment includes the use of either oral or transdermal estrogen, with the goal of changing body fat distribution, reducing hair growth, and feminizing body shape (i.e., breast augmentation) (Wierckx et al., 2012).

Cross-sex hormone treatment may be particularly important for transgender individuals, as multiple studies have identified positive mental health effects of such treatment. One longitudinal study found significant improvements in depression, anxiety, psychological symptoms, and functional impairment at one year after the onset of cross-sex hormone treatment for transgender individuals (Colizzi, Costa, & Todarello, 2014). Another study of

transwomen in San Francisco found that use of transition-related medical care (hormone treatment) was associated with lower risk of binge drinking, drug use, and suicidal ideation, suggesting that transition care may reduce mental health and behavioral risks among this population (Wilson, Chen, Arayasirikul, Wenzel, & Raymond, 2015). The same is true of samples of transmen; a prospective study found that three months of hormone treatment was associated with better quality of life and mental health compared to a control group (Keo-Meier et al., 2015). The documented positive effects of hormone therapy for transitioning individuals points to the importance of the availability of this type of care.

A number of medical professionals are involved in the transition process, but "family and internal medicine physicians continue to deliver the care in the long term" (Wilczynski & Emanuele, 2014, p. 121). Hormone therapy is both beneficial and straightforward and can be provided by primary care physicians and as well as other providers (Gardner & Safer, 2013). For example, patients being treated with hormones require routine lab monitoring to ensure optimal hormone levels as well as annual renal and liver function tests, among others, to determine whether adverse effects require changes in hormone regimens – all of which is routinely ordered by primary care providers (Wilczynski & Emanuele, 2014).

Routine Care

In addition to transition care, transgender individuals require basic routine medical care for illnesses or injuries, for the treatment of chronic diseases such as diabetes or cancer, as well as preventive care such as cancer screenings and blood pressure monitoring. However, hormone use, surgeries, and other medical transition steps may affect their healthcare needs in a way that is unique. For example, because Prostate Specific Antigen (PSA) levels are low when testosterone levels are low, a PSA test is not an appropriate screening mechanism for

prostate cancer for transwomen on transition hormone regimens – digital rectal exams are recommended instead (Center of Excellence for Transgender Health, 2011). In addition, testosterone use may increase the incidence of polycystic ovarian syndrome among transmen (Moore, Wisniewski, & Dobs, 2003). In turn, chronic disease and other health-related factors may affect recommended hormone protocols or dosages. For example, more frequent and lower testosterone doses are recommended for transmen with histories of trauma, as high or frequent doses may cause emotional distress (Center of Excellence for Transgender Health, 2011).

Health and Mental Health Disparities

The transgender population also experiences a number of health disparities which increases the need for access to appropriate routine and transition care. Although there is a lack of population-level data on the health of the transgender population, existing evidence points to both behavioral and mental health disparities. In particular, transgender young adults are more likely to report heavy episodic drinking compared to non-trans young adults (Coulter et al., 2015). Transmen and women also report a high prevalence of using alcohol and other drugs to cope with experiences of stigma (Grant et al., 2011). The rate of smoking is also higher among the transgender community than both lesbian, gay, or bisexual (LGB) individuals and the general population (Shires & Jaffee, 2015b). Due to job discrimination and a resultant frequent incidence of sex work, particularly among MTF, transgender individuals are at high risk for HIV and other STIs. Depression is also common and the rate of suicidality and suicide attempts among transgender persons are astronomically high (Grant et al., 2011; Kenagy, 2005). The screening, diagnosis, and potential referrals that so often occur in primary care settings may be crucial for transgender individuals who are smokers or have mental health or substance abuse

issues. Likewise, as stated above, there is an established link between hormone use and mental health status, so access to hormones may also contribute to alleviating mental health concerns and risk behaviors (Colizzi et al., 2014; Keo-Meier et al., 2015; Wilson et al., 2015).

Healthcare Experiences Reported by Transgender Patients

An emerging body of literature suggests that transgender patients often have negative experiences when seeking health care services, which may contribute to not being able to access appropriate routine or transition care. One study recently found that 25% of transgender participants in a survey in Virginia were not able to access needed trans-specific healthcare services in the past 12 months. Of these, 31% of those could not access hormone therapy, 25% could not access surgery, 25% could not access counseling, and 19% could not access gynecological care (Bradford, Reisner, Honnold, & Xavier, 2013). Previous studies, summarized below, have highlighted transgender patients' perceptions that their providers generally do not know how to appropriately treat them, documented incidents of harassment and violence, and examined the prevalence of denial of care to this population.

Providers' Lack of Knowledge

A number of qualitative studies have found that transgender patients report that their physicians appear to be at a loss at how to provide care to them (Bauer et al., 2009; Poteat, German, & Kerrigan, 2013a). Poteat and colleagues (2013a) found that transgender patients felt that providers would not meet their needs or even be prepared to treat them at all. When transgender patients have more information about their healthcare needs than the providers who are treating them, the resulting shift in power can make providers quite uncomfortable and result in substandard care for patients (Poteat et al., 2013a). Alternatively, a lack of knowledge on the part of providers may directly result in care that is not ideal.

More recent quantitative studies have confirmed these findings. Research using data from the landmark National Transgender Discrimination Survey (Grant et al., 2011) suggest that over half of transgender participants have to teach their healthcare providers about transgender health issues (Jaffee, Shires, & Stroumsa, in press). In a sample of transgender individuals in Virginia, 20% of the respondents reported having to educate their providers about transgender health issues (Bradford et al., 2013). A recent study of transgender individuals in Ontario, Canada found that many transgender patients (31% of transmen and 41% of transwomen) reported that their primary care provider was not at all knowledgeable about transgender issues (Bauer, Zong, Scheim, Hammond, & Thind, 2015). Collectively, these studies indicate that having to teach a provider about transgender health is a relatively common experience among transgender individuals seeking care.

Harassment and Discomfort

Numerous studies have documented experiences of bias against transpeople in healthcare settings, and some transgender people even reported being physical assaulted when seeking care (Grant et al., 2010; Shires & Jaffee, 2015a). Qualitative studies provide insights into these experiences; transgender patients have reported being ridiculed or harassed by front desk or pharmacy staff (Hussey, 2006), having their genitals or gender presentation be a focus of the consultation even when irrelevant (Sperber, Landers, & Lawrence, 2005), and having mental health issues blamed on their transgender identity (Bauer et al., 2009). They have also reported having their provider refuse to use their preferred pronoun (Hussey, 2006; Sperber et al., 2005), or feeling like their very existence as a transperson was being questioned (Bauer et al., 2009; Poteat et al., 2013a).

Denial of Care

Prior studies have also found that transgender individuals are often refused care outright. In a 2005 needs assessment of transgender persons in Chicago, 12% had been refused routine care and 23% had been refused transition-related care; 38% of respondents said that being transgender created a problem for them related to seeking an annual physical (Kenagy & Bostwick, 2005). A quarter of participants in the National Transgender Discrimination Survey (NTDS) reported being refused care in a doctor's office or hospital (Grant et al., 2011), although whether participants were referring to routine care or transition care is unclear. In one study, 25% of transmen and 29% of transwomen had been told by a family or primary care physician in the past that they don't know enough about trans-related care to provide it, and 7% and 5%, respectively, were denied care by a family physician because they are transgender (Bauer et al., 2015). Qualitative studies have documented similar issues (Bauer et al., 2009; Poteat et al., 2013a).

Implications of Reported Healthcare Experiences

Ultimately, negative experiences with physicians and other healthcare providers may prevent transgender patients from seeking and obtaining needed routine and transition care. In a Virginia study, only 43% of respondents reported being "out" to their primary care provider, and 15% were uncomfortable or very uncomfortable discussing trans-specific healthcare needs with their primary care provider (Bradford et al., 2013). Bauer and colleagues (2015) found that when sociodemographic and trans-specific factors were controlled, prior negative experiences and perceived lack of provider knowledge predicted discomfort with discussing trans-related issues with a family physician. In addition, unadjusted analyses indicated that transgender individuals who were planning to transition were more likely to report discomfort. Transgender

participants in the NTDS who had to teach their providers about transgender health were four times more likely than others to delay or avoid needed medical care (Jaffee, Shires, & Stroumsa, in press). Finding appropriate healthcare can be an arduous task for many transgender persons and may involve extensive research, travel, persistence, and finding insurance and policy loopholes (Roller, Sedlak, & Draucker, 2015). In short, prior studies indicate that the barriers reported by transgender individuals in need of care are nearly ubiquitous and extremely daunting.

Provider-Level Factors Affecting Care Access for Transgender Patients

Although barriers to care from the perspective of transgender people have been documented, less well understood is the perspective of healthcare providers and factors that may contribute to difficulty in providing sensitive and high quality care to the transgender population. This section reviews the available literature in this area, particularly as it pertains to provider empathy, attitudes, subjective norms, exposure to transgender individuals, and willingness to care for this population. Subsequently, gaps in the literature, both methodological and content-related, will be described.

Exposure to Transgender Individuals

Studies of adolescent medicine and HIV providers indicate a fairly high level of experience with transgender patients among this provider population. Among members of the Society for Adolescent Health and Medicine and the Pediatric Endocrine Society, a majority (67%) had provided clinical care to transgender youth; respondents had previously treated a mean of 10.4 adolescent transgender patients each (Vance, Halpern-Felsher, & Rosenthal, 2015). Among HIV providers in New England, participants in a qualitative study reported having a broad range of experience with transgender patients (Lurie, 2005). However, these

providers likely do not represent primary care providers or clinicians generally, and no studies to date have measured exposure to transgender patients among family medicine, internal medicine, or ob-gyn providers in general.

Although the link between exposure to transgender individuals and willingness to provide care to this population has not been studied, studies of clinicians' attitudes towards other vulnerable patient groups indicate a relationship between comfort or willingness to treat and either personal or professional experience with this group. In a study of nursing students, exposure (either personal or clinical) was positively correlated with comfort level in working with patients of diverse races, gay, lesbian, or bisexual individuals, terminally ill patients, and HIV positive patients, among others (Eliason & Raheim, 2000). Another study found that exposure to gay and lesbian physicians and hearing their stories had an impact on decreasing homophobia among medical students (Wallick, Cambre, & Townsend, 1995).

Empathy for Transgender Patients

Empathy, or the ability to understand another person's feelings or point of view, is seen as particularly important to the practice of medicine (Larson & Yao, 2005; Spiro, 2009). Prior studies have linked physician empathy not only to patient satisfaction (Sullivan, Stein, Savetsky, & Samet, 2000) but to clinical outcomes and factors that influence clinical outcomes, including compliance (S. S. Kim, Kaplowitz, & Johnston, 2004). In one study, patients with diabetes who perceive that their providers have greater levels of empathy had significantly better clinical control of both their LDL cholesterol and hemoglobin A1C (Hojat et al., 2011). Among medical students, empathy was positively associated with better core clinical skills (Hojat, Gonnella, Mangione, et al., 2002). Although there is general agreement that empathy can be taught, there is some evidence that female physicians have higher levels of empathy

compared to male physicians, particularly in the area of "perspective taking" (Hojat, Gonnella, Nasca, et al., 2002).

No studies to date have specifically examined the impact of provider empathy on willingness to care for marginalized populations such as the transgender community, but at least one qualitative study points to empathy as a potentially important factor: "Where providers sat on the continuum between participation and resistance to transgender stigma/discrimination seemed to be a function of empathy. Lesbian and gay providers as well as other providers who felt a personal connection to transgender people were more likely to express resistance to stigmatization of transgender people" (Poteat et al., 2013a, p. 27).

Perceived Knowledge about Transgender Health

One of the biggest barriers to treating transgender patients reported by healthcare providers is feeling that they do not have the appropriate training or knowledge. Several prior qualitative studies found that providers who serve transgender patients report feeling uncomfortable or ambivalent about treating this population due to a lack of skills, training, and information in this area (Lurie, 2005; Poteat, German, & Kerrigan, 2013b). Quantitative studies report similar findings. Among a national sample of adolescent health care providers, most participants (75%) were familiar with the Endocrine Society's guidelines around transgender medical therapy (Vance et al., 2015), but only 18% agreed that their training had adequate emphasis on transgender care. Most had learned about caring for transgender youth after medical school, and the majority wanted to learn more about caring for transgender youth (86%) (Vance et al., 2015).

Willingness to Provide Care

Based on reports of transgender patients, healthcare institutions generally have a long way to go in order to ensure that care provided to the transgender community is sensitive and culturally appropriate. The first step to alleviating these disparities, however, is to assess whether providers are even willing to care for this population. Since transgender patients often report being denied care, this is an extremely salient line of inquiry. Very few studies to date have examined healthcare providers' willingness to treat transgender patients. Unger (2015) surveyed obstetrician-gynecologists in nine healthcare institutions across the United States, with a resulting sample size of N=141. Providers were asked about both routine and transition care services for transgender patients. In terms of routine care, a vast majority of respondents (90%) reported being willing to provide routine pap smears for FTM patients who had not undergone hysterectomy; 80% agreed that they would be willing to perform breast examinations for MTF patients using estrogen. When asked about transition care, 65% were willing to perform hysterectomies for FTM patients who had met the criteria for surgical transition. Despite this willingness, only 29% and 34% of respondents reported that they were comfortable caring for FTM and MTF patients, respectively. Although this study provides some insight into willingness to care for transgender patients among obstetrician-gynecologists, it does not address either other types of primary care providers or factors associated with willingness to care for transgender patients.

Justification for the Current Study

There is increasing evidence that health outcomes for transgender patients are suboptimal, and a lack of access to appropriate and sensitive care is a major barrier to improving health among this population. It is critically important for transgender patients to receive both

necessary routine care as well as desired transition care, and existing evidence suggests that transgender patients are denied both routine and transition care on a regular basis. However, little is known about what factors predict healthcare providers' willingness to provide both routine care and transition care to transgender patients. Barriers such as lack of knowledge or training about transgender health clearly play a role, but it appears that motivated providers are able to overcome such barriers (Vance et al., 2015).

In terms of transition care, primary care providers – such as internal medicine, family medicine, and ob-gyn providers - are best positioned to either initiate or continue hormone therapy for the transgender population. Prescribing hormones and monitoring hormonal imbalances is well within the purview of primary care providers, for instance, in the case of polycystic ovarian syndrome (Shannon & Wang, 2012) or hormone replacement related to menopause (De Villiers et al., 2013). The only study assessing primary care providers' willingness to treat transgender patients (Unger, 2015) did not assess willingness to provide hormone treatment (either initiating or continuing hormone care). This question represents a sizable gap in the literature, as the responsibility of managing gender-transition hormonal regimens can and should fall to primary care providers (Wilczynski & Emanuele, 2014).

Whether a provider is willing to provide care to transmen and women or not is likely a complex interplay between the providers' personal characteristics, exposure to transgender patients, empathy towards this population, attitudes regarding gender norms, and self-efficacy around providing such care (including perceived knowledge). The results of this study may point to potential improvements in medical and nursing education, healthcare organizations' policies and procedures, or other target areas that will improve transgender health care.

Identifying key factors related to providers' willingness to care for this population is critical to learn where to most effectively intervene to improve transgender healthcare.

Theoretical Framework

The theoretical framework for this study was primarily informed by the Theory of Planned Behavior (Ajzen, 1991), but it was also influenced by Intergroup Contact Theory (Pettigrew, 1998). The Theory of Planned Behavior, an adaptation of the Theory of Reasoned Action (Madden, Ellen, & Ajzen, 1992), posits that three main factors influence behavioral intentions, and thus, behaviors: attitudes toward the behavior, subjective norms related to the behavior, and perceived behavioral control. The Theory of Planned Behavior (TPB) has previously been used to predict the behavior of physicians and other healthcare providers. For example, these constructs have successfully predicted whether physicians will deliver counseling regarding the prevention of sexually transmitted infections to adolescent patients (Millstein, 1996). The TPB has also been used to predict whether pharmacists will participate in a drug monitoring program for their patients (Gavaza, Fleming, & Barner, 2014).

To date, the TPB has not been used to assess whether healthcare providers are willing to treat a marginalized patient population such as the transgender community. Like the rest of the population, healthcare providers are vulnerable to social biases and prejudice. Thus, it is critical to account for potential bias, or factors that may mitigate bias, in the theoretical framework for this study. Intergroup Contact Theory predicts that, through a number of mechanisms, individuals who have contact with a member of an "out-group" will have more positive attitudes towards that group (Pettigrew, 1998).

The modified TPB used in this study contains elements of both of these theories (as illustrated in Figure 1). I predict that increased personal and clinical exposure to transgender

individuals, fewer negative attitudes regarding non-binary gender norms (transphobia), increased empathy towards transgender patients (empathetic attitudes), and greater self-efficacy (fewer reported barriers and more reported facilitators) related to treating transgender patients will predict providers' increased willingness to provide routine care, continue HT, and initiate HT for transgender patients.

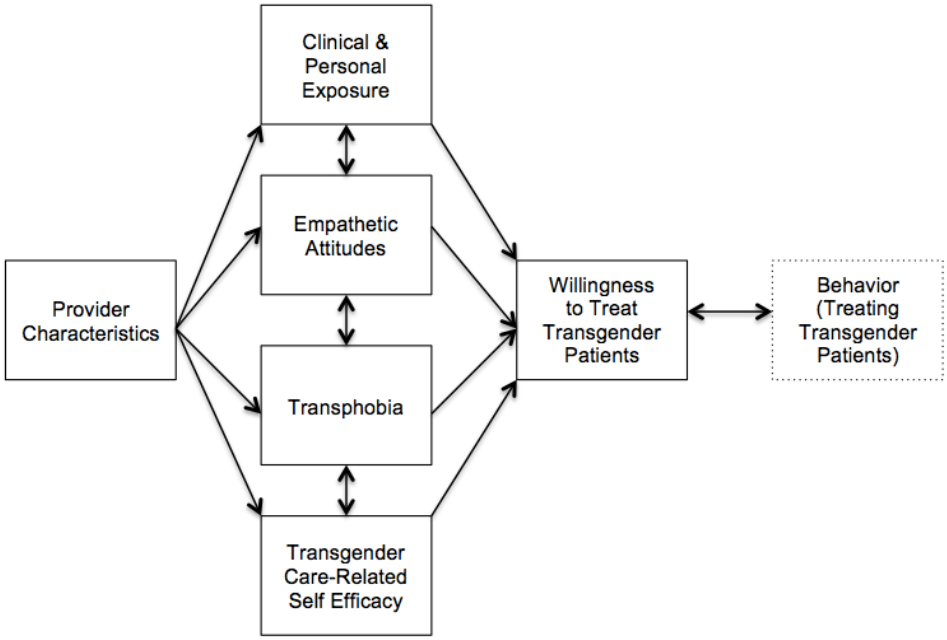

Figure 1. Theoretical framework: Modified theory of planned behavior.

Study Aims

Given the range of barriers faced by transgender individuals when accessing healthcare and known gaps in the literature related to healthcare providers' willingness to provide routine and transition care to transgender patients, the aims of this study are as follows:

4. To determine the association between provider characteristics, personal and clinical exposure, transphobia, empathetic attitudes towards transgender patients,

and transgender care-related self-efficacy on willingness to *provide routine care* to transgender patients.

H_1: When provider characteristics are controlled, increased personal and clinical exposure, decreased transphobia, increased empathy attitudes, increased self-efficacy will be positively associated with willingness to provide routine care to transgender individuals.

5. To determine the association between provider characteristics, personal and clinical exposure, transphobia, empathetic attitudes towards transgender patients, and transgender care-related self-efficacy on willingness to *continue hormone therapy* for transgender patients.

   H_2: When provider characteristics are controlled, increased personal and clinical exposure, decreased transphobia, increased empathetic attitudes, increased self-efficacy, and increased facilitators will be positively associated with willingness to continue hormone therapy for transgender individuals.

6. To determine the association between provider characteristics, personal and clinical exposure, transphobia, empathetic attitudes towards transgender patients, and transgender care-related self-efficacy on willingness to *initiate hormone therapy* for transgender patients.

   H_2: When provider characteristics are controlled, increased personal and clinical exposure, decreased transphobia, increased empathy attitudes, and increased self-efficacy will be positively associated with willingness to initiate hormone therapy for transgender individuals.

CHAPTER 3: METHODOLOGY

This study is an analysis of de-identified survey data that were used to measure factors associated with primary care providers' willingness to treat transgender patients at Henry Ford Health System. All study procedures and materials were approved by Henry Ford's Institutional Review Board. The study population, setting, participants, sampling, survey instrument, analytical variables, and analysis, and data screening process are described below.

Study Population

Setting

Henry Ford Health System is an integrated care delivery system serving Detroit, Michigan and its surrounding suburbs. The system owns a medical group of over 1,000 salaried physicians and staffs 26 primary care clinics throughout metropolitan Detroit. The health system has taken a number of steps to promote sensitivity to lesbian, gay, bisexual, and transgender patients and employees. For example, the system added sexual orientation to its employee and patient non-discrimination policies, though to date, gender identity has not been included in system non-discrimination policies. Various diversity initiatives have begun to address sexual orientation and gender identity in the health system, and the Health System was designated as a LGBT healthcare equality leader in 2014 by the Human Rights Campaign. An internal group has developed and piloted a LGBT sensitivity training for health system providers and staff. Additionally, in the Fall 2015, the Human Resources department began developing a plan to make the system more sensitive to transgender employees. However, gender identity and sexual orientation information is not routinely collected from patients. Despite strides in inclusivity, many improvements are still needed.

Sampling

Eligible participants included all primary care (internal medicine and family medicine) and women's health providers practicing in the health systems' affiliated medical group, including attending physicians, advanced practitioners (physician assistants, nurse practitioners, and certified nurse midwives), and medical residents. Health system and departmental records were used to identify the study sample and to acquire each eligible participant's name, degree, specialty, and email address. In order to maximize sample size, the universe of eligible participants was included in the sampling frame (N=389). The final sample included 223 respondents, for an overall response rate of 57% (range = 45% to 100%, depending on provider type and specialty). Table 1 describes the response rate overall, by specialty, and by provider type.

Table 1

Provider Survey Response Rates

Provider specialty/type	Eligible (*n*)	Respondent (*n*)	Response rate (%)
Internal medicine			
Physicians	97	44	45
Advanced practitioners	5	3	60
Residents	117	66	56
Family medicine			
Physicians	64	32	50
Advanced practitioners	1	1	100
Residents	24	17	71
Women's health			
Physicians	43	30	70
Advanced practitioners	23	19	83
Residents	15	11	73
Total	389	223	57

Data Collection

Procedures

The survey was programmed into an online data collection tool. Study data were collected and managed using REDCap (Research Electronic Data Capture) electronic data capture tools hosted at Henry Ford Health System. REDCap is a secure, web-based application designed to support data capture for research studies, providing 1) an intuitive interface for validated data entry; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for importing data from external sources (Harris et al., 2009). A unique link to the survey was sent to each eligible participant in an email that contained informed consent information, including an assurance of confidentiality and the voluntary nature of the survey, along with information about the study incentives. Two follow-up emails were sent to non-respondents. The survey took approximately 15 minutes to complete. Data were collected in November and December of 2015; the survey link was emailed to eligible participants on November 3, 2015. A reminder email was sent to remaining non-respondents on November 10, 2015, and a second reminder was sent to non-respondents on November 18, 2015. The online survey was closed on December 18, 2015.

Incentives

Participants were each offered a $30 gift card to Target, a chain retail store. In addition, participants were automatically entered into a random draw to be chosen to receive one of three $100 Target gift cards. Incentives were mailed to participants within three weeks of survey completion along with a letter thanking them for participating in the study that was signed by the Principal Investigators (Deirdre Shires and Daphna Stroumsa).

Measurement

Survey Instrument

The survey was developed in part based on adaptations of previously published survey questions or previous studies whose authors were willing to share survey instruments; some questions were developed specifically for this study. The relevant domains addressed in the survey include provider demographics (constructed for this study), personal exposure to transgender individuals (Berkman & Zinberg, 1997), clinical exposure to transgender patients (construct for this study), willingness to care for transgender patients (Kelley, Chou, Dibble, & Robertson, 2008; Unger, 2015), attitudes about gender norms (Nagoshi et al., 2008), and provider empathy (Kiersma, Chen, Yehle, & Plake, 2013). The survey instrument is included in Appendix A. Table 2 describes each of the theoretical constructs, corresponding survey domains, and corresponding question numbers.

Control Variables

Provider characteristics included age, gender, specialty, provider type, gender, race/ethnicity, religious identity, religiosity, and political views. *Age* was analyzed as a continuous variable (i.e., age in years). *Provider type* included resident/fellow, advanced practitioner, or attending physician. *Specialty* was categorized as internal medicine, family medicine, general women's health, or women's health specialty. *Gender* was categorized as male or female. *Race/Ethnicity* was categorized as African American, White, Asian or Pacific Islander, or Other. *Religion* was categorized as Atheist/Agnostic, Christian, Muslim, Jewish, Hindu, and Other. *Religiosity* was categorized as not religious, slightly religious, moderately religious, and very religious. *Political views* were categorized as liberal, moderate, or conservative.

Table 2

Survey Domains Related to Theoretical Constructs

Study construct	Domains/questions	Question numbers
Personal exposure	• Ever met transgender person • Has transgender acquaintances/colleagues • Hast transgender friends/family	13-15
Clinical exposure	• Cared for transgender patient in past 5 years • Ever continued hormone therapy • Ever initiated hormone therapy	17-19
Empathetic attitudes	• Empathy towards transgender patients	40-43
Transphobia	• Opinions regarding binary gender categories and cultural gender norms	44-51
Self-efficacy	• Familiarity with routine care and transition care protocols for trans patients • Barriers to treating trans patients, related to knowledge, insurance, staff, etc.	20; 25-26 32-38
Willingness	• Willingness to provide routine care • Willingness to continue hormone therapy • Willingness to initiate hormone therapy	21-24 27 28-29

Independent Variables

The construction of independent variables was driven by the Theory of Planned Behavior and Intergroup Contact Theory (as described above) and included personal exposure, clinical exposure, empathetic attitudes towards transgender individuals, transphobia, self-efficacy, and willingness to care for transgender patients. The variables included in each of these domains are described below along with their sources, including three scales: *transphobia, empathy,* and *knowledge barriers*. For each scale, exploratory factor analysis was conducted in

order to examine factor structure. Cronbach's alpha was also examined to determine whether each scale demonstrated internal consistency.

Personal Exposure

Personal exposure was measured using three binary variables, *ever met a transgender person* (constructed from 2 questions assessing whether the participant had met a female-to-male transgender person or met a male-to-female transgender person), *transgender acquaintances or colleagues,* and *transgender friends or family.* Personal exposure questions were constructed for this study but loosely based on a previously published study about social workers' attitudes towards gay and lesbian individuals (Berkman & Zinberg, 1997).

Clinical Exposure

Clinical exposure to transgender patients was characterized by three binary variables, cared for transgender patient in past 5 years (yes/no); ever continued hormone therapy (HT) for transgender patient (yes/no), and ever initiated HT for transgender patient (yes/no). Clinical exposure questions were constructed for this study.

Empathetic Attitudes

A brief empathy scale was constructed to characterize attitudes towards transgender patients. Due to space limitations, four questions were taken from a previously validated 15-item empathy scale tested with healthcare providers, with permission from the original authors (Kiersma et al., 2013). Two of the selected questions addressed cognitive empathy and two questions addressed emotional empathy. The questions used a 7-point Likert scale, where responses ranged from "strongly disagree" to "strongly agree". One question (#41 on the survey) was subsequently dropped due to a lack of correlation with the other three questions and questionable face validity.

To calculate the scale, the item answers were summed and a mean of the summed items was calculated. Item means ranged from 5.4 – 6.2 (on a 7 point scale), indicating that on average, participants somewhat agreed or agreed with empathy statements (higher scores indicate higher levels of empathy). Factor loadings for the scale ranged from .431 - .849 on one factor and Cronbach's alpha was low (.320). However, the scaled variable was used due to the consistent relationships between each of the 3 individual items and the outcome variables.

Transphobia

In order to measure *transphobia*, a previously published scale of attitudes regarding gender non-conformity was used, with items measured on a 7-point Likert scale where answers ranged from "strongly disagree" to "strongly agree" (Nagoshi et al., 2008). Eight of the nine original questions were used for this study; question #1 from the original scale was dropped due to lack of relevance to the current study. To calculate the scale, the item answers were summed and a mean of the summed items was calculated. Higher scores indicated a greater degree of transphobia. Exploratory factor analysis indicated that all 8 items loaded onto one factor; factor loadings ranged from .510 - .814. Cronbach's alpha for the resulting scale was .846.

Self-efficacy

A scale (*knowledge barriers*) was constructed using four questions regarding knowledge-related barriers to treating transgender patients due to the consistent relationship between these variables and the study outcomes. Knowledge barriers included barriers related to training on transgender health issues and familiarity with gender transition guidelines. Each barrier where there was agreement (somewhat agree, agree, or strongly agree) constituted 1 point on the barriers scale (potential range = 0-4). This scale demonstrated good internal

consistency (Cronbach's alpha = .849), with item means ranging from .393 - .578. All four items loaded onto one factor, with factor loadings ranging from .790 - .886.

Two other barriers were dichotomized, both related to administrative issues: *don't know how to bill for services* for transgender patients and *lack of insurance reimbursement*. Other self-efficacy variables included *feeling capable of providing routine care* and *being familiar with any hormone regimen*. These questions were adapted from another study with the author's permission (Unger, 2015).

Willingness

Three domains were measured here, including *willingness to provide routine care*, *willingness to continue HT, and willingness to initiate HT*. These were measured on a 7-point Likert scale with answers ranging from "strongly agree" to "strongly disagree". Binary (yes/no) outcome variables were constructed for each of these continuous variables, where participants indicating that they "strongly agree", "agree", or "somewhat agree" were coded "yes". All others were coded "no". Willingness questions were adapted from another study with the author's permission (Unger, 2015).

Data Screening

Data screening was conducted in order to 1) assess missing data patterns; 2) detect potential collinearity among predictor variables; and 3) assess normality of data.

Missing Data

Each of the analytical study variables was examined for missing data. Table 3 below indicates the level of missing data for each variable of interest. Each analytical variable was complete for 90% or more of the study sample. Most variables had missing data for less than five percent of respondents; only two variables (constructed scales) were missing for 5-10% of

participants. Participants with missing data were excluded listwise for descriptive analyses and pairwise for bivariate analyses. Only participants with full data for each variable of interest were included in multivariate models.

Table 3

Frequency of Missing Data for Analytical Study Variables

Percent of participants with missing responses	Variables
<1%	Age, sex, religion, religiosity, political views, ever met a transgender person, have transgender acquaintance or colleague, have transgender friends or family
1% to <5%	Sexual orientation, empathy scale, familiar with hormone therapy regimen, insurance barrier, billing barrier, willing to initiate hormone therapy, willing to provide routine care, willing to continue hormone therapy
5% to <10%	Transphobia scale, knowledge barriers scale

Normality of Continuous and Ordinal Variables

Tests for normality were conducted for both ordinal and continuous variables. Specifically, skewness and kurtosis were examined as well as histograms of each variable's distribution. The Kolmogorov-Smirnov Test for normality, which is appropriate for large sample sizes, was also conducted for each ordinal and continuous variable (Mertler & Vannatta, 2002).

Table 4 describes the psychometric properties of each of the continuous and ordinal study variables, including an assessment of the possible and actual range, the skewness and kurtosis, and whether or not the Kolmogorov-Smirnov test for normality was statistically significant. Overall, the only major indicator of non-normality was a significant Kolmogorov-

Smirnov test for each study variable; however, this test is very sensitive and should generally be interpreted in light of other measures of normality (Mertler & Vannatta, 2002). None of the analytical variables were severely positively or negatively skewed (i.e., >1.00 or < -1.00) (Mertler & Vannatta, 2002).

When individual variables are examined, age showed a slight positive skew, with a number of participants clustered around the younger age range (i.e., 26-33 years old). Transphobia scale results also showed a positive skew, indicating that participants cluster around the lower end of the scale (i.e., less transphobia). Finally, empathy scale results were somewhat negatively skewed, indicating that a number of participants reported higher levels of empathy.

Table 4

Psychometric Properties of Continuous and Ordinal Study Variables

Variable	*N*	*M* (*SD*)	Possible range	Actual range	Skewness	Kurtosis	K-S Test *p* value
Age	222	41.3 (13.6)	—	26–72	.526	-1.204	<.001
Political views	223	1.7 (0.7)	1–3	1–3	.543	-1.015	<.001
Empathy scale	214	5.8 (0.9)	1–7	3.3–7	-.533	-0.247	<.001
Transphobia scale	201	3.09 (1.1)	1–7	1–7	.628	0.583	.038
Knowledge barriers scale	211	1.9 (1.6)	0–4	0–4	.054	-1.606	<.001

Multicollinearity Assessment

Two steps were taken in order to detect potential collinearity among raw variables: 1) a variance inflation factor (VIF) was calculated for all independent variables; and 2) Pearson's r tests were conducted for certain variables of interest. Pearson's r carries assumptions of data normality (Hauke & Kossowski, 2011), but each of the continuous and ordinal study variables

exhibited signs of normality so Pearson's r is an appropriate test (see Table 5). An analysis of VIF for each independent variable showed no signs of multicollinearity; VIF ranged from 1.122 to 1.987, well within the normal range (1-10). Bivariate correlations were also assessed between empathetic attitudes, transphobia, political views, and religiosity.

Table 5

Correlations Between Clinical and Personal Exposure Variables

Variables	Ever met	Acq or Col	Friend or Fam	Past 5 years	Initiate HT	Contin HT
Ever met transgender person	—	.19	.05	.49	.08	.21
Transgender Acquaintance or colleague		—	.30	.11	.02	-.05
Transgender Friends or family			—	.11	.12	.06
Transgender patient in past 5 years				—	.15	.29
Ever initiated HT					—	.21
Ever continued HT						—

Table 6

Correlations Between Self-efficacy Variables

Variables	Capable Routine	Familiar HT	Insurance Barrier	Billing Barrier	Know Barriers
Capable of providing routine care	—	.16	.03	-.05	-.34
Familiar with HT regimen		—	.16	.02	-.21
Insurance barrier			—	.32	.21
Billing barrier				—	.30
Knowledge barriers scale					—

Table 7

Correlations Between Transphobia, Religiosity, Political Views, and Empathy

Variables	Transphobia	Religiosity	Political views	Empathy Scale
Transphobia	—	.21	.45	-.46
Religiosity		—	.30	-.10
Political views			—	-.24
Empathy scale				—

A number of significant correlations between study variables were detected. The highest correlation between exposure variables was between *ever met a transgender person* and *cared for a transgender patient in the past 5 years* (r=.49; Table 5). Among self-efficacy variables, feeling capable of providing routine care and the knowledge barriers scale were the most highly correlated (r= -.34; Table 6). Finally, the correlation between *political views* and *transphobia* (.45) and the correlation between *empathetic attitudes* and *transphobia* (-.46) were also relatively high (Table 7). However, no multicollinearity issues were detected, as correlations among variables were all <.80.

Statistical Analysis

Univariate Analysis

Descriptive analyses were conducted for all study variables, including frequencies for nominal measures and means and standard deviations for ordinal and continuous measures.

Bivariate Analysis

Chi square tests and t-tests for nominal and continuous variables, respectively, were conducted to assess the relationship between each predictor variable and the dichotomous or categorical study outcomes.

Multivariate Analysis

Due to the nature of primary care practice (providers practicing within certain clinics or sites), conducting multilevel analyses would be preferable. However, in order to perform multilevel analyses such as HLM or the mixed model procedure in SPSS, an adequate number of respondents per group is needed; one recommended benchmark is 30 respondents each within 30 groups (Hofmann, 1997), although a greater number of groups can compensate for a smaller number of respondents per group and vice versa. Because the total sample size is N=223 respondents nested within 24 sites, there is not enough power to conduct multilevel modeling. In addition, medical residents and other providers practice in multiple sites, including providing inpatient care, making nesting providers within sites extremely difficult.

Thus, binary logistic regression was chosen for the multivariate analysis in this study. Three logistic regression models were examined, one to predict willingness to provide routine care, one to predict willingness to continue HT, and one to predict willingness to initiate HT. Variables were entered simultaneously.

A ratio of at least 10 events per predictor variable generally results in sufficient power in logistic regression (Peduzzi, Concato, Kemper, Holford, & Feinstein, 1996). For the three outcomes examined here, *willingness to provide routine care* had 171 "events", *willingness to initiate HT* had 48, and *willingness to continue HT* had 116, allowing a maximum of 17, 4, and 11 predictor variables in each of the three logistic regression models. Predictors were included in the multivariate analysis for each outcome if bivariate relationships with the outcomes were significant at the $p<.10$ level. For the model predicting *willingness to initiate HT*, an alpha level of $p<.05$ was used due to the need to limit the number of predictor variables to four variables in order to ensure that the event to predictor ratio was over 10.

CHAPTER 4: RESULTS

The results of the study are described in this chapter, including the descriptive results, bivariate associations, and multivariate analyses (three logistic regression models).

Descriptive Analyses

Provider Characteristics

Table 8 describes the primary care providers who participated in the study (N=223). In terms of socio-demographic characteristics, study participants were on average 41.3 years of age (SD=13.6). Over half of the respondents identified as female (59.5%) and White (56.1%). One-fifth (20.4%) identified as Asian or Pacific Islander, and 7.7% listed their race as African American or Black. Other participants described themselves as Southeast Asian or Asian Indian (6.7%), and less than 5% of participants were identified as Arab American/Middle Eastern, Hispanic, or other (data not shown). These categories were collapsed into an "other" category (15.8%). The majority of the sample identified as heterosexual (95.9%).

In terms of religion, half of participants listed their religion as Christian (49.5%). Other frequently designated religious affiliations included Muslim (17.1%), Hindu (12.2%), and Agnostic or Atheist (8.1%). Most participants described themselves as either slightly, moderately, or very religious (80.3%). Other participants identified as not religious at all (19.7). About half of respondents indicated that they were politically liberal or very liberal (46.6%), about one third were moderate or "middle of the road" (36.3%), and 17.0% defined themselves as conservative or very conservative.

Table 8

Provider Characteristics

Variable	*N*	%
Age (*M*, *SD*)	222	41.3 (13.6)
Gender		
Male	90	40.5
Female	132	59.5
Race/ethnicity		
White	124	56.1
African American/Black	17	7.7
Asian or Pacific Islander	45	20.4
Other	35	15.8
Sexual Orientation		
Lesbian/Gay/Bisexual/Other	8	4.2
Heterosexual	210	95.9
Religion		
Agnostic/Atheist	18	8.1
Christian	110	49.5
Jewish	13	5.9
Muslim	38	17.1
Hindu	27	12.2
Other	16	7.2
Religiosity		
Not religious at all	44	19.7
Slightly religious	48	21.5
Moderate religious	105	47.1
Very religious	26	11.7
Political Views		
Liberal	104	46.6
Moderate	81	36.3
Conservative	38	17.0
Specialty		
Internal Medicine/Family Medicine	163	73.1
General Women's Health (Ob/Gyn)	47	21.1
Women's Health Specialty	13	5.8
Provider Type		
Resident	94	42.2
Advanced Practitioner	23	10.3
Attending Physician	106	47.5

Note. *N* = 223.

Provider Type and Specialty

Most respondents were either internal medicine or family medicine providers (73.1%) (Table 8). The rest of the participants were either general women's health (ob/gyn) providers (21.1%) or women's health specialty providers (5.8%) – for example, urogynecologists or reproductive endocrinologists. About half the sample was comprised of attending physicians (47.5%) and 42.2% of respondents were medical residents. The other 10.3% of respondents were advanced practitioners (physician assistants, nurse practitioners, or nurse midwives).

Independent Variables

Personal and clinical exposure to transgender individuals, empathetic attitudes, transphobia, barriers/facilitators, and willingness to treat transgender patients are described in Table 9. The results are discussed below.

Exposure to Transgender Individuals

Exposure to transgender individuals included two domains: personal exposure and clinical exposure. Most participants had previously met a transgender person (77.9%). Although only 4.1% of respondents had transgender family members or friends, 14.9% indicated that they had transgender acquaintances or colleagues. Approximately half of participants indicated that they had cared for a transgender patient in the past five years, but only 2.2% had ever initiated hormone therapy and 13.6% had ever continued a hormone therapy regimen initiated by another healthcare provider.

Table 9

Personal and Clinical Exposure, Empathetic Attitudes, Transphobia, Self-efficacy, and Willingness to Care for Transgender Patients

Variable	*n*	%
Personal Exposure		
Ever met a transgender person	173	77.9
Has transgender acquaintances or colleagues	33	14.9
Has transgender family or friends	9	4.1
Clinical Exposure		
Ever initiated hormone therapy regimen	5	2.2
Ever continued hormone therapy regimen	30	13.6
Cared for transgender patient in past 5 years	111	50.2
Empathetic Attitudes Score (mean, SD)	214	5.8 (0.9)
Transphobia Score (mean, SD)	201	3.1 (1.1)
Self-efficacy		
Don't know how to bill for services	20	9.3
Lack of insurance reimbursement	7	3.3
Knowledge barriers scale (mean, SD)	211	1.9 (1.6)
Capable of providing routine care	138	62.4
Familiar with any hormone regimen (FTM or MTF)	28	12.7
Willingness		
Willingness to provide routine care	171	77.7
Willingness to initiate hormone therapy	48	22.1
Willingness to continue hormone therapy	116	53.2

Note. $N = 223$.

Empathetic Attitudes

Three empathy variables (measured on a 1-7 Likert scale, where 7 = "strongly agree") were summed in order to create a scale. The mean for the summed items, "it is necessary for a healthcare provider to comprehend others' experiences", "I am able to value someone else's point of view", and "Considering a patient's feelings is not necessary for patient-centered care" (reverse-coded) was 5.8 (SD = 0.9), indicating that on average, participants somewhat agreed or agreed with the empathy statements.

Transphobia

The mean transphobia score for participants was 3.1 (Range = 1-7; SD = 1.1). A score of 3 (somewhat disagree) indicates that on average, participants had moderately low levels of transphobia.

Trangender Care-Related Self-efficacy

The most frequently cited barriers to treating transgender patients were related to a lack of familiarity with transition care guidelines (57.0%), a lack of training in transgender-specific care (54.3%), a lack of exposure to transgender patients (38.1%), and a lack of knowledge about transgender patients among nursing or support staff (33.2%) (individual variables not shown). These items were used to construct a knowledge barriers scale - a count of the number of knowledge or exposure-related barriers that each participant faced (range = 0-4). The knowledge barriers scale mean was 1.9 (SD = 1.6) or nearly 2 knowledge barriers per participant (Table 9). Fewer participants indicated that they had administrative barriers, such as not knowing how to bill for transgender-specific services (9.3%) or that there is a lack of insurance reimbursement for transgender care (3.3%).

Fewer than two-thirds of providers (62.4%) reported feeling capable of providing routine care to transgender patients; only 12.7% were familiar with any gender transition hormone regimen (for either male-to-female transgender patients, female-to-male transgender patients, or both).

Willingness to Provide Care

Participants indicated whether they were willing to provide routine care, continue hormone therapy initiated by another provider, or initiate hormone therapy for transgender patients. The majority of participants agreed (strongly agreed, agreed, or somewhat agreed) that they were willing to provide routine care to male-to-female transgender patients (81.6%) as well as female-to-male transgender patients (81.2%) (data not shown). Most participants were willing to provide routine care to both FTM and MTF patients (77.7%). About half of survey respondents agreed (strongly agreed, agreed, or somewhat agreed) that they were willing to continue a hormone therapy regimen that was initiated by another healthcare provider (53.2%). Among survey respondents, 22.0% were willing to initiate a hormone therapy regimen for male-to-female transgender patients and 22.9% were willing to initiate hormone therapy for female-to-male patients (data not shown). About one-fifth (22.1%) of health providers surveyed were willing to initiate hormone therapy for both FTM and MTF patients.

Bivariate Associations

The following section describes the results of chi square tests and t-tests to test associations between independent variables and the study outcomes: willingness to provide routine care, willingness to continue a hormone therapy regimen, and willingness to initiate a hormone therapy regimen. The alpha level for bivariate associations was set at .10, which is

considered appropriate for studies with limited sample sizes and under circumstances where making a Type I error would not have severe consequences (Stevens, 2012).

Factors Associated with Willingness to Provide Routine Care

Provider type and specialty. Provider type and clinical specialty were associated with willingness to provide routine care, with internal medicine and family medicine providers more likely to be willing to provide routine care to transgender patients compared to general women's health or specialty women's health providers (85% vs. 63.8% and 76.9%, respectively). Medical residents (89.1%) were more likely than advanced practitioners to be willing to provide routine care (69.6 and 74.3%, p=.014).

Provider characteristics. Age was associated with willingness to provide routine care; participants who were willing were younger on average (mean=40.2 years, SD = 13.7) compared to participants who were not willing to provide routine care (mean = 45.4 years, SD = 12.5) (Table 7). Political views were also associated with willingness to provide routine care, with more liberal participants being more likely to be willing (p=.088) (Table 5). However, gender, race, sexual orientation, religion, and religiosity were not associated with willingness to provide routine care to transgender patients.

Exposure. Participants who had met a transgender person where more likely to indicate a willingness to provide routine care (84.2% vs. 66.7%, p=.007) (Table 6). In terms of clinical experience, providers who had cared for at least one transgender patient in the past five years were more likely to be willing to provide routine care to this population (p=.007).

Transphobia and Empathetic Attitudes. Providers who were willing to provide routine care to transgender patients had higher empathy scores (mean = 5.9 vs. mean = 5.4) and lower transphobia scores (mean = 3.0 vs. mean = 3.5).

Self-efficacy. Those who reported that they felt capable of providing routine care to transgender patients (93.1% vs. 56.6%, p<.001) and reported fewer knowledge barriers (mean = 1.7 vs. mean = 2.5) were more willing to provide routine care to this population (Table 7). Those who reported that they did not know how to bill for services provided to transgender patients were less likely to be willing to provide routine care (60.0% vs. 81.9%, p=.020) (Table 6).

Factors Associated with Willingness to Continue a Hormone Therapy Regimen

Provider Type and Specialty. Residents were more likely to be willing to continue a hormone therapy regimen (63.0%) compared to advanced practitioners (47.8%) and attending physicians (45.6%, p=.045). There were no significant differences among specialties (Table 5).

Provider Characteristics. Provider characteristics that were associated with willingness to continue a hormone therapy regimen included race/ethnicity (p=.010) and religion (p=.021)(Table 5). White respondents (61.8%) and Jewish respondents (84.6%) were most willing. Gender, sexual orientation, religiosity, and political views were not associated with willingness to continue a hormone therapy regimen (Table 5).

Exposure. Providers who had met a transgender person before were more likely to be willing to continue a hormone therapy regimen compared to those who had not (58.0% vs. 35.4%, p=.006) (Table 6). Those who had initiated a hormone therapy regimen for a transgender patients in the past were also more likely to be willing to continue HT in the future (p=.034). Participants who had ever continued a hormone therapy regimen before were also more likely compared to participants who had not continued HT for a transgender patient in the past (79.3% vs. 49.2%, p=.010). In addition, those who cared for a transgender patient

in the past 5 years were more willing to continue a hormone therapy regimen as well (p=.076).

Transphobia and Empathetic Attitudes. Both empathetic attitudes towards transgender patients and transphobia scale scores were significantly associated with providers' willingness to continue a hormone therapy regimen (Table 8). Higher empathetic attitudes scores were found among participants who were willing to continue a hormone therapy regimen (mean=5.8, SD = 0.8) compared to those who were not willing (mean = 5.7, SD = 1.0, p=.095). Those who were willing had comparatively lower transphobia scores (mean = 2.9, SD = 1.0) compared to those who were not willing (mean = 3.3, SD = 1.1).

Self-efficacy. Those who reported being capable of providing routine care were more likely to be willing to continue hormones compared to those who did not agree that they were capable (58.5% vs. 43.9%, p=.036). Finally, providers who reported being familiar with a hormone therapy regimen for either FTM or MTF transgender patients were more likely to be willing (81.5% vs. 49.2%, p=.002).

Factors Associated with Willingness to Initiate a Hormone Therapy Regimen

Provider Type. Medical residents were more likely to be willing to initiate hormone therapy for transgender patients (35.9%) compared to advanced practitioners and attending physicians (p<.001), but there were no differences by specialty.

Provider Characteristics. Two provider characteristics were associated with willingness to initiate a hormone therapy regimen: age and political views. Providers who were willing to initiate hormones were younger than those who were not (mean = 34.7 years, SD = 11.3 vs. mean = 43.1 years, SD = 13.7, p<.001)(see Table 9). Conservative or very conservative participants were less likely to be willing to initiate hormone therapy (8.3%)

compared to those who described themselves as moderate (26.3%) or liberal (23.8%) (Table 6). Gender, race, sexual orientation, religion, and religiosity were not associated with willingness to initiate HT.

Exposure. Exposure variables were not significantly associated with willingness to initiate HT.

Transphobia and Empathetic Attitudes. Transphobia and empathetic attitudes were not significantly associated with willingness to initiate HT.

Self-efficacy. Participants who indicated that insurance reimbursement was a barrier were also more likely to be willing (57.1% vs. 21.2%, p=.025). Finally, those who reported being familiar with hormone regimens for FTM or MTF patients were more likely to be willing to initiate hormone therapy for these patients (37.0% vs. 20.0%, p=.046).

Table 10

Chi Square Tests of Willingness to Provide Routine Care, Continue Hormone Therapy, and Initiate Hormone Therapy by Provider Characteristics

Variable	Routine Care %	*p*	Continue HT %	*p*	Initiate HT %	*p*
Gender		.815		.891		.578
Male	80.7		54.0		24.1	
Female	79.4		53.1		20.9	
Race/ethnicity		.288		.010		.579
White	77.7		61.8		18.9	
African American/Black	94.1		52.9		29.4	
Asian or Pacific Islander	75.6		32.6		27.3	
Other	80.0		48.5		21.9	
Sexual Orientation		.151		.567		.511
Lesbian/Gay/Bisexual/Other	100.0		62.5		37.5	
Heterosexual	79.3		53.2		22.1	
Religion		.144		.021		.802
Agnostic/Atheist	100.0		55.6		22.2	
Christian	80.7		57.9		19.8	
Jewish	61.5		84.6		15.4	
Muslim	75.7		47.2		27.8	
Hindu	77.8		29.6		18.5	
Other	87.5		43.8		31.3	
Religiosity		.143		.894		.496
Not religious at all	90.7		56.8		27.9	
Slightly religious	68.8		51.1		23.4	
Moderately religious	78.6		53.9		21.6	
Very religious	73.1		48.0		12.0	
Political Views		.088		.459		.085
Liberal	84.5		53.4		23.8	
Moderate	80.0		57.0		26.3	
Conservative	67.6		44.4		8.3	
Specialty		.006		.364		.355
Internal/Family Medicine	85.0		50.3		20.1	
General Women's Health	63.8		61.7		29.8	
Women's Health Specialty	76.9		58.3		18.2	
Provider Type		.014		.045		<.001
Resident	89.1		63.0		35.9	
Advanced Practitioner	69.6		47.8		17.4	
Attending Physician	74.3		45.6		10.8	

Note. $N = 223$.

Table 11

Chi Square Tests of Willingness to Provide Routine Care, Continue Hormone Therapy, and Initiate Hormone Therapy by Exposure, Empathy, Transphobia/Subjective Norms, and Self-Efficacy

Variable	Routine Care %	*p*	Cont. HT %	*p*	Initiate HT %	*p*
Personal Exposure						
Ever met a transperson		.007		.006		.567
Yes	84.2		58.0		23.1	
No	66.7		35.4		19.1	
Transgender acquaintances or colleagues		.162		.164		.570
Yes	90.6		63.6		25.0	
No	78.5		50.8		21.3	
Transgender family or friends		.131		.452		.135
Yes	77.8		66.7		50.0	
No	80.5		52.4		21.2	
Clinical Exposure						
Ever initiated hormone therapy regimen		1.00		.034		.889
Yes	80.0		100.0		25.0	
No	80.0		52.1		22.1	
Ever continued hormone therapy regimen		.777		.010		.461
Yes	80.0		79.3		27.6	
No	79.8		49.2		21.0	
Cared for transgender patient in past 5 yrs		.007		.076		.263
Yes	85.5		59.3		25.0	
No	70.4		47.2		18.7	
Self-efficacy						
Capable of providing routine care		<.001		.036		.485
Yes	94.1		58.5		23.3	
No	56.6		43.9		19.3	
Familiar with any hormone regimen (FTM or MTF)		.887		.002		.046
Yes	78.6		81.5		37.0	
No	77.4		49.2		20.0	
Don't know how to bill for services		.020		.463		.401
Yes	60.0		45.0		30.0	
No	81.9		53.6		21.8	
Lack of insurance reimbursement		.539		.827		.025
Yes	71.4		57.1		57.1	
No	80.8		52.9		21.2	

Note. $N = 223$.

Table 12

t-Tests of Association between Continuous Predictor Variables and Willingness to Provide Routine Care

	Willingness to Provide Routine Care				
	Yes	No			
Variable	*M* (*SD*)	*M* (*SD*)	*T*	*df*	*p*
Age	40.2 (13.7)	45.4 (12.5)	-2.4	217	.018
Empathy scale	5.9 (0.8)	5.4 (0.9)	3.3	210	.001
Transphobia scale	3.0 (1.1)	3.5 (1.1)	-3.1	197	.002
Knowledge barriers scale	1.7 (1.6)	2.5 (1.6)	-2.8	207	.005

Table 13

t-Tests of Association between Continuous Predictor Variables and Willingness to Continue Hormone Therapy

	Willingness to Continue Hormone Therapy				
	Yes	No			
Variable	*M* (*SD*)	*M* (*SD*)	*T*	*df*	*p*
Age	40.5 (14.0)	42.2 (13.2)	-0.9	215	.377
Empathy Scale	5.8 (0.8)	5.7 (1.0)	1.7	211	.095
Transphobia Scale	2.9 (1.0)	3.3 (1.1)	-3.0	198	.003
Knowledge Barriers Scale	1.8 (1.6)	1.9 (1.6)	-0.4	208	.722

Table 14

t-Tests of Association between Continuous Predictor Variables and Willingness to Initiate Hormone Therapy

	Willingness to Initiate Hormone Therapy				
	Yes	No			
Variable	*M* (*SD*)	*M* (*SD*)	*t*	*df*	*p*
Age	34.7 (11.3)	43.1 (13.7)	-4.3	214	<.001
Empathy Scale	5.8 (0.9)	5.7 (0.9)	0.5	210	.649
Transphobia Scale	2.9 (1.1)	3.2 (1.1)	-1.4	198	.159
Knowledge Barriers Scale	1.7 (1.7)	1.9 (1.6)	-0.9	207	.392

Multivariate Results

Three binary logistic regression models were examined in order to simultaneously consider factors that predict willingness to provide routine care (Model 1), willingness to continue a hormone therapy regimen (Model 2), and willingness to initiate a hormone therapy regimen (Model 3). Control and predictor variables that were significantly associated with the outcomes in the bivariate analyses at the $p<.10$ level were included in the multivariate models, with the exception of Model 3, which used an alpha level of $p<.05$ in order to limit the number of predictor variables in the model due to sample size and power limitations (Peduzzi et al., 1996). However, including only variables significant at the $p<.05$ level can fail to identify important associations (Bursac, Gauss, Williams, & Hosmer, 2008). In addition, the alpha level for reporting logistic regression results was set at .10 due to the relatively small sample size (Stevens, 2012).

Model 1: Willingness to Provide Routine Care

Variables entered into the logistic regression model to predict willingness to provide routine care included age, political views, provider specialty, provider type, ever met a transgender person, cared for transgender patients in the past 5 years, empathetic attitudes, transphobia, capable of providing routine care, billing barriers, and knowledge barriers (Table 15). The overall model was significant, $\chi^2(14, N=187) = 75.16$, $p<.001$, Cox & Snell pseudo $R^2 = .331$.

Table 15

Logistic Regression Analyses of Factors that Predict Providers' Willingness to Provide Routine Care to Transgender Patients

Variable	AOR	95% *CI*	*p*
Age	0.99	0.94–1.04	.712
Political Views			
Liberal (ref)	1.00		
Moderate	0.69	0.23–2.09	.507
Conservative	0.73	0.17–3.22	.678
Specialty			
Internal/Family Medicine (ref)	1.00		
General Ob/gyn	0.20	0.06–0.71	.013
Specialty Ob/gyn	0.39	0.04–3.53	.400
Provider Type			
Resident (ref)	1.00		
Advanced Practitioner	0.35	0.04–2.79	.320
Attending Physician	0.18	0.04–0.81	.025
Ever met transgender person	3.23	0.82–12.66	.093
Transgender patients in past 5 years	1.04	0.32–3.39	.947
Empathy	1.62	0.88–2.97	.121
Transphobia	0.70	0.40–1.23	.213
Capable of providing routine care to transgender patients	13.22	4.45–39.31	<.001
Billing barriers	0.48	0.09–2.46	.375
Knowledge barrier scale	1.18	0.83–1.67	.363

Note. $N = 187$.

Four variables significantly contributed to the model – provider specialty, provider type, ever met a transgender person, and capable of providing routine care. Compared to internal/family medicine physicians, general ob/gyn providers were less likely to be willing to provide routine care (AOR = 0.20, p=.013). Attending physicians were less likely to be willing to provider routine care to transgender patients compared to medical residents (AOR = 0.18, p=.025). Participants who had met a transgender person in the past were over three times more likely to be willing to provide routine care when other factors were controlled (AOR = 3.23, p=.093). Providers who reported that they felt capable of providing routine care were 13 times more likely to be willing to provide such care compared to others (AOR = 13.22, p<.001).

Model 2: Willingness to Continue a Hormone Therapy Regimen

The variables race, religion, provider type, ever met a transgender person, cared for transgender patients in the past 5 years, ever continued hormone therapy, transphobia, empathetic attitudes, capable of providing routine care, and familiar with any hormone therapy regimen were entered into a logistic regression model to predict willingness to continue a hormone therapy regimen initiated by another healthcare provider (Table 16). The model was significant, $\chi^2(17, N=192) = 59.923$, $p<.001$, Cox & Snell pseudo $R^2 = .268$.

Table 16

Logistic Regression Analyses of Factors that Predict Providers' Willingness to Continue a Hormone Therapy Regimen Initiated by Another Provider

Variable	AOR	95% *CI*	*p*
Race			
Black (ref)	1.00		
Asian or Pacific Islander	0.55	0.10–2.86	.475
White	1.13	0.29–4.37	.860
Other	0.95	0.19–4.75	.950
Religion			
Agnostic/Atheist (ref)	1.00		
Christian	3.25	0.89–11.86	.075
Jewish	19.24	2.48–149.58	.005
Muslim	1.86	0.38–9.06	.443
Hindu	1.13	0.20–6.53	.892
Other	1.25	0.24–6.92	.803
Provider Type			
Resident (ref)	1.00		
Advanced Practitioner	0.19	0.55–0.66	.009
Attending Physician	0.26	0.12–0.58	.001
Ever met transgender person	2.95	1.11–7.83	.030
Transgender patients in past 5 years	0.62	0.27–1.41	.252
Ever continued hormone therapy	5.06	1.49–17.24	.010
Transphobia scale	0.71	0.48–1.05	.083
Empathetic Attitudes	1.18	0.75–1.87	.470
Capable of providing routine care to transgender patients	1.80	0.87–3.72	.112
Familiar with any hormone therapy regimen (for FTM or MTF)	2.92	0.89–9.57	.077

Note. $N = 192$.

Variables that significantly contributed to the model included religion, provider type, ever met a transgender person, ever continued hormone therapy, transphobia, and familiar with any hormone therapy regimen. Jewish providers were 19 times more likely to be willing to continue a hormone therapy regimen compared to agnostic or atheist providers (AOR = 19.24, p=.005), and Christian providers were also more likely (AOR = 3.25, p=.075). Advanced practitioners (AOR = 0.19, p=.009) and attending physicians (AOR = 0.26, p=.001) were less likely to be willing to continue hormones compared to residents. Those who had ever met a transgender person had greater odds of being willing to continue HT compared to those who had not (AOR = 2.95, p=.030). Participants who had ever continued a hormone therapy regimen for a transgender patient in the past were more likely to be willing to do so in the future (AOR = 5.06, p=.010), and those who were familiar with any HT regimen were also more willing (AOR = 2.92, p=.077). Finally, increased transphobia was associated with decreased likelihood of being willing to continue hormone therapy (AOR = 0.71 p=.083).

Model 3: Willingness to Initiate a Hormone Therapy Regimen

In the third logistic regression model, variables that had a significant bivariate association with willingness to initiate a hormone therapy regimen for transgender patients included age, provider type, familiar with any hormone regimen, and insurance barriers (Table 17). The model was significant, $\chi^2(5, N=209) = 30.021$, $p<.001$, Cox & Snell pseudo $R^2 = .134$.

Three variables significantly contributed to the model: provider type, familiar with any hormone therapy regimen, and insurance barriers. Attending physicians had lower odds of being willing to initiate HT compared to residents (AOR = 0.31, p=.063). In addition, providers who were familiar with the hormone therapy regimen for FTM or MTF patients were nearly 3 times more likely to be willing to initiate this type of care compared to others (AOR=2.65, p=.059).

Finally, reporting insurance barriers increased the odds of being willing to treat transgender patients (AOR= 4.85, p=.089).

Table 17

Logistic Regression Analyses of Factors that Predict Providers' Willingness to Initiate a Hormone Therapy Regimen for Transgender Patients

Variable	AOR	95% *CI*	*p*
Age	0.97	0.93–1.02	.271
Provider Type			
Resident (ref)	1.00		
Advanced Practitioner	0.47	0.93–2.33	.353
Attending Physician	0.31	0.09–1.07	.063
Familiar with any hormone therapy regimen (for FTM or MTF)	2.75	0.90–8.40	.075
Barrier: Insurance	4.85	0.79–29.82	.089

Note. *N* = 209.

CHAPTER 5: DISCUSSION

This is the first study to assess primary care providers' willingness to deliver both routine and transition care to transgender patients. The majority of providers surveyed in this study were willing to provide routine or basic care to transgender individuals; about half were willing to continue HT for transgender patients, and a minority (22%) were willing to initiate HT. This chapter discusses factors associated with willingness to provide each of these three types of care, the relationship of the findings to the Theory of Planned Behavior and Intergroup Contact Theory, implications for health care and social work, limitations, and directions for future research.

Willingness to Provide Routine Care

Routine care includes services such as chronic disease management, acute care for illnesses like influenza, pelvic examinations, and preventive care. Nearly one quarter of primary care providers surveyed were not willing to provide such basic care to transgender patients. This likely has a direct impact on access to care or perceived access to routine care this community. Although somewhat dated, one review found that only 30-40% of transgender individuals receive routine medical care (Feldman & Bockting, 2003). In contrast, approximately 80% of the general population reported having a regular source of care around the same time period (Beal, Doty, Hernandez, Shea, & Davis, 2007).

Previously, Unger and colleagues found that among a sample of obstetrician/gynecologists from 9 different health systems, 88.7% were willing to perform routine pap smears for female-to-male patients and 80.4% were willing to perform breast examinations for male-to-female patients taking hormones or who had breast augmentation (2015). In this study, general women's health providers and women's health specialists were

willing to deliver routine care at lower rates of 63.8% and 76.9%, respectively. Although the difference in rates of willingness between this study and Unger's study may be due to variation in measurement, the current study used incentives and had a somewhat higher response rate, possibly resulting in a more representative sample. Alternatively, providers in the Midwestern U.S. may be less willing to care for transgender patients compared to women's health providers in other regions, as Unger's study surveyed providers from multiple sites across the United States.

Provider respondents who had met a transgender person before were over three times more likely to be willing to provide routine care to them. The relationship between personal exposure to transgender individuals and willingness to care for them has not been explored before. However, one previous study found that nursing students who had personal experience with lesbian, gay, or bisexual people were more comfortable providing care to LGB patients (Eliason & Raheim, 2000).

Furthermore, there was a significant bivariate relationship between having cared for a transgender patient in the past 5 years and willingness to provide routine care for this population. Previous studies have similarly found associations between clinical exposure to LGBT patients and attitudes regarding, or comfort working with, LGBT patients (Baylor & McDaniel, 1996; Eliason & Raheim, 2000). However, clinical exposure variables did not make a significant contribution to the multivariate model predicting willingness to deliver routine care in this study.

Finally, those participants who reported feeling capable of providing routine care to transgender patients were over 13 times more likely to be willing to provide such care. Previous qualitative studies have found that providers report feeling uncomfortable caring for

transgender patients due to a lack skills or training (Lurie, 2005; Poteat et al., 2013b). It may be that knowledge-related barriers explain the relationship between feelings of capability and willingness to deliver basic care to transgender patients. Post hoc analyses revealed that the relationship between knowledge-related barriers and feelings of capability was significant (participants who felt capable reported fewer barriers on average), but providers who report feeling capable did report a mean of 1.7 knowledge barriers. Therefore, knowledge does not completely explain the relationship between capability and willingness.

Willingness to Continue Hormone Therapy

Many transgender individuals are interested in pursuing hormone therapy as part of their transition process, and this simple step can have profound psychological benefits (Keo-Meier et al., 2015). Although endocrinologists are often part of an initial care team and initially prescribe hormone treatment, there is general agreement that primary care providers can continue HT and monitor its effects (Wilczynski & Emanuele, 2014), even among endocrinologists (Gardner & Safer, 2013). PCPs often initiate and monitor hormone therapy for a number of other purposes. However, only half of primary care providers surveyed in this study were willing to continue HT for participants who had been started on HT by another provider.

Both personal and clinical factors contributed to providers' willingness to continue HT. Similarly to routine care, those who had met a transgender person were more likely to be willing to continue HT. In addition, participants with lower levels of transphobia were more willing. These findings indicate that even when clinical experience is accounted for, personal values or attitudes still play a role in determining which providers are willing to assist transgender patients in transitioning to the gender with which they identify. Past studies have clearly

indicated that healthcare providers' values and biases play a role in dictating their behavior and that physicians are often not even aware of their biases (Chapman, Kaatz, & Carnes, 2013).

However, clinical specialty and experiences are also important; advanced practitioners and attending physicians were less willing to provide HT compared to medical residents. In addition, those who had participated in this kind of care before and those who reported being familiar with HT regimens for transitioning were more likely to be willing to continue HT for patients. Increasing familiarity with transition-related HT may be as simple as incorporating this topic into training programs; one recent study found that adding just a one-hour lecture on transgender health and hormone treatment significantly increased medical students' comfort and willingness to treat transgender patients (Safer & Pearce, 2013).

Willingness to Initiate Hormone Therapy

Although endocrinologists have generally been tasked with initiating new HT regimens for transgender patients, initiating HT is considered straightforward and appropriate for primary care physicians to initiate as well (Gardner & Safer, 2013). Medical transition guidelines have evolved and are moving towards an informed consent model, where primary care physicians may be responsible for both identifying gender dyphoria issues and initiating a patient's transition process (Wilczynski & Emanuele, 2014). Furthermore, access to transition care, particularly in non-urban areas where specialists may not be available, necessitates the involvement of primary care providers in initiating HT. However, very few respondents in this study (22%) were willing to initiate hormone therapy for transgender patients.

Similarly to factors predicting willingness to continue HT, attending physicians were less likely to be willing to initiate HT compared to residents. Familiarity with HT regimens also increased the odds of willingness. However, those who reported insurance-related barriers to

treating transgender patients were nearly 5 times more willing to initiate HT. This may be because providers unwilling to deliver such care may not even realize that insurance-related barriers exist.

Increasing primary care providers' willingness to initiate and continue HT could greatly expand access to this service for a population that faces numerous barriers to transition care. For instance, improving access to HT through primary care may reduce unsafe behaviors such as self-medication with hormones procured through non-medical avenues (Xavier et al., 2013). Being able to access HT in primary care settings may have other benefits as well. Transgender patients who receive HT from endocrinologists may not access primary care, thus missing out on preventive care, cancer screenings, chronic disease management, and other important routine care services – including smoking cessation counseling and mental health screening. The benefits of receiving primary care have been well documented (Starfield, Shi, & Macinko, 2005). If primary care physicians are willing to both initiate and continue HT, transgender patients will be more likely receive comprehensive health care services, which is particularly important given the health and mental health disparities that this population experiences (Coulter et al., 2015; Grant et al., 2010; Shires & Jaffee, 2015b).

Furthermore, recent improvements in healthcare delivery include an increasing focus on establishing medical homes. Patients who have a medical home, by definition, have a regular doctor or provider, can reach their provider by phone, are able to get either healthcare services or medical advice in the evening or on the weekends, and have access to timely, organized care (Beal et al., 2007). Access to a medical home has been shown to decrease and almost eliminate racial disparities related to care access and quality (Beal et al., 2007). Access to a patient-centered, culturally competent medical home may have similar benefits for other underserved

populations, including the transgender community. It may be that transgender individuals who are able to get transition care in a primary care setting may be more likely to seek out and continue to access a medical home.

Theoretical Framework: Theory of Planned Behavior and Intergroup Contact Theory

The hypotheses being tested in this study were that increased personal and clinical exposure, decreased transphobia, increased empathetic attitudes, and increased self-efficacy related to transgender patient care (fewer barriers and more facilitators) would increase the odds of being willing to provide routine care, continue HT, and initiate HT. Results indicate that personal exposure - specifically, having ever met a transgender person - increased the odds of being willing to provide both routine care and continue HT. In terms of clinical exposure, having provided care in general to transgender patients was not predictive, but ever having continued HT for a transgender patient increased the odds of being willing to do so in the future. This suggests that intergroup contact theory did add substantively add to the theoretical framework for the study, and potentially that personal contact is more salient than clinical contact. This may be explained by intergroup contact theory's principle that having equal status among individuals is important in fostering positive interactions (Gierman-Riblon & Salloway, 2013; Pettigrew, 1998). The unequal power dynamic between healthcare providers and their patients may be particularly relevant when it comes to transgender patients who are put in the position of having to educate their providers instead of the other way around (Poteat et al., 2013a).

According to the Theory of Planned Behavior, attitudes (in this study, empathetic attitudes towards transgender patients), subjective norms (transphobia), and perceived behavioral control (self-efficacy) should all contribute to behavioral intention (willingness).

Although empathy was associated with willingness to provide routine care and continue HT in the expected direction in the bivariate analyses (i.e., those who were willing to provide care had higher empathy scores), empathy was not a significant contributor to any of the multivariate models. Transphobia contributed significantly only to the model predicting willingness to continue HT, and in the expected direction – transphobia decreased the odds of willingness to continue HT. In the general population, negative attitudes towards transgender people are correlated with traditional ideas about gender and binary gender beliefs (Norton & Herek, 2013). It may be that more transphobic providers may be willing to provide routine care to transgender patients, but not be willing to participate in the gender transition process due to their personal beliefs about gender.

Self-efficacy proved to be important in each of the models: feeling capable of providing routine care significantly increased the odds of being willing to do so, and being familiar with any HT regimen increased the odds of being willing to both continue and initiate HT. Only one barrier was important to willingness, but not in the expected direction: providers who reported barriers around being able to procure insurance reimbursement for transgender health care were more likely to be willing to initiate HT. This may be accounted for by the feedback loops included in the Theory of Planned Behavior: the relationship between behavior/intention and behavioral control is often bidirectional (Ajzen, 1991). It may be that only providers who were interested in providing HT or had done so in the past were aware of potential barriers such as insurance reimbursement issues.

Study Implications

Medical Education

Improving transgender care-related self-efficacy, particularly feelings of capability and familiarity with hormone regimens, should begin with including transgender health content in both medical and nursing education curricula. A recent study found that the median time spent on LGBT health in medical school curricula in Canada and the U.S. was 5 hours total. However, only 30.3% of medical schools report spending any time at all on the topic of gender transitioning and 34.8% cover sex reassignment surgery (Obedin-Maliver et al., 2011). In addition, only 16% of allopathic medical schools in the United States provide what they identify as comprehensive LGBT training for faculty physicians who are teaching medical students and residents; over half provide no such training for faculty physicians (Khalili, Leung, & Diamant, 2015). For the minority of programs that do provide faculty training, there is no information available on how much time or content is devoted specifically to gender identity issues or transgender health.

There is evidence that simply adding transgender health topics to medical education and training can be effective. Although willingness to provide care was not assessed, one recent study found that delivering a single transgender health lecture as part of a family medicine clerkship for medical students resulted in increased knowledge, positive attitudes, and perceived skills for participants compared to students that did not receive the transgender health lecture (Dowshen, Nguyen, Gilbert, Feiler, & Margo, 2014). Another recent study found that adding just a one-hour lecture on transgender health and hormone treatment significantly increased medical students' comfort and willingness to treat transgender patients (Safer & Pearce, 2013).

Given the relationship between personal contact with transgender individuals and willingness to provide care in this study, it may be even more beneficial to incorporate personal exposure into medical training. In fact, a recent intervention trial informed by intergroup contact theory found that a transgender speaker panel was significantly more effective in reducing transphobia than a traditional lecture about transgender-specific topics (Walch et al., 2012).

Others have suggested that higher level changes could be effective in improving healthcare providers' competency and knowledge around LGBT health, including adding questions about transgender health to national exams (such as the United States Medical Licensing Examination) or requiring transgender health-related training or other requirements as part of healthcare accreditation processes (Obedin-Maliver et al., 2011). This may begin to change norms around responsibility and capability for providing transgender care. With respect to women's health care providers, Obedin-Maliver and colleagues explain, "Expanding our practices to provide for transgender individuals will not diminish our care of cisgender women, but rather will extend our services to others in need. Let's make the pie bigger and apply our prior baking lessons; let's bring our knowledge, skills, and passion for advocacy to a marginalized group while redefining ourselves as reproductive health physicians" (Obedin-Maliver, 2015, p. 110).

Social Work and Social Justice

The transgender population is arguably one of the most marginalized groups in the United States, and social workers have an ethical obligation to reduce discrimination and oppression of vulnerable groups, including those marginalized due to their gender identity (National Association of Social Workers, 2008). Results of this study indicate that some providers are not willing to provide even routine or basic care to transgender individuals, and

many are not willing to continue HT, although this service is well within the purview of these medical specialties. Efforts should be made in both social work education and social work practice in order to advocate for transgender individuals seeking healthcare.

Social work education. Social work education has long placed an emphasis on developing cultural competence among social work practitioners, first with an emphasis on racial and ethnic diversity and then expanding to focus on competence related to a number of minority or cultural groups – including sexual minorities. A number of studies have assessed the climate of social work education related to LGBT issues in general. One recent study found little evidence of negative attitudes towards LGBT people among a national sample of graduate social work faculty (Woodford, Brennan, Gutiérrez, & Luke, 2013), although negative attitudes were endorsed more frequently when the sample included non-graduate faculty and was limited to heterosexual respondents (Chonody, Woodford, Brennan, Newman, & Wang, 2014). Despite exposure to cultural competence training, social work students still report experiencing homophobia in social work classroom settings (Dentato et al., 2016) as well as conflict between religious social work students and lesbian, gay, and bisexual social work students (Joslin, Dessel, & Woodford, 2016).

To date, there have been no published studies of social work student – or faculty - attitudes towards or experience with transgender clients or individuals specifically. Unpublished data indicate that MSW students in one Midwestern university have similar or greater levels of personal exposure to transgender individuals compared to the healthcare providers in this study; 12.9% of MSW students reported having transgender friends and 0.9% reported having transgender family members (Jaffee, Dessel, & Woodford, 2013). Further research is needed to determine the level of bias that social work students exhibit towards

gender minorities and how to mitigate such bias so that social workers can serve as advocates for this marginalized community.

Social work practice. As case managers, therapists, and critical members of medical teams, social workers often serve an advocacy role, including working to make sure that patients receive needed medical, mental health, and support services, ensuring that patients receive fair treatment, and taking into account a patient's environment and level of social support when providing services. The Patient Protection and Affordable Care Act's (ACA) support of integrated care (i.e., settings or systems that combine primary care and mental health care in some way) has the potential to place more social workers in healthcare settings and ensure that social workers play an integral role on healthcare teams (Davis et al., 2015).

However, despite increased integration among health professionals, physicians tend to communicate primarily with other physicians, leaving allied health professionals – including social workers – out of patient care decisions (Zwarenstein, Rice, Gotlib-Conn, Kenaszchuk, & Reeves, 2013). One method of increasing collaboration among social workers, physicians, and other healthcare providers is through the use of inter-professional education (IPE) or bringing together various disciplines for training purposes. IPE is common in social work education (Taylor, Coffey, & Kashner, 2015) but generally less valued by physicians and medical students/residents (Kashner et al., 2016). Because the social work profession has long championed IPE, social workers are in a unique position to advocate for this type of training (Taylor et al., 2015), and in particular, to address head-on power inequities between physicians and other professionals (Zwarenstein et al., 2013) that may limit collaboration and communication that may be beneficial for vulnerable patients such as transgender individuals.

In addition, social workers in private practice or other therapist roles who counsel transgender clients through gender transition should be aware that not all primary care providers are willing to initiate or even continue HT. Accordingly, social workers who are helping to guide transgender individuals through the medical transition process should develop a network of supportive providers, including those who are willing to provide routine care as well as HT.

Healthcare Policy

Legal protections for transgender Americans are generally lacking. Fewer than half of states in the U.S. prohibit employment discrimination on the basis of gender identity, and even fewer states prohibit housing discrimination based on gender identity (Human Rights Campaign, 2016). However, the ACA does prohibit healthcare discrimination based on gender identity, making it illegal for insurance companies to deny transgender patients coverage and for transgender patients to be denied care – particularly from providers or systems who receive federal (i.e., Medicaid or Medicare) funds (U.S. Department of Health and Human Services, 2010).

Provisions of the ACA may increase the proportion of transgender individuals who are insured and seek access to both routine and transition care. Although the legal landscape is changing for transgender patients, results of this study indicate that primary care providers' training, experience, and personal values related to caring for transgender patients are lagging behind. Providers may be legally required to care for transgender patients but may be unwilling or feel incapable of doing so, particularly in the case of initiating or continuing hormone therapy.

Study Limitations

This study is not without limitations. Study limitations related to the cross-sectional nature of the data, participant sample, sample size, and study instruments are described below.

Cross-Sectional Study

Causality cannot be established due to the cross-sectional nature of the data. However, this is the first study to establish significant associations between willingness to provide care to transgender individuals and both personal and clinical factors that may influence primary care providers.

Participant Sample

This sample may be biased towards providers who are more sympathetic to or interested in the transgender population or transgender health care. However, the use of incentives and resulting high response rate may have helped to mitigate non-response bias in this study (Massey & Tourangeau, 2013). Furthermore, healthcare providers may have over-reported their willingness to treat transgender patients due to social desirability. Others have found that physicians routinely overestimate their positive behaviors, such as adhering to medical guidelines (Adams, Soumerai, Lomas, & Ross-Degnan, 1999). In addition, data were collected in one Midwestern, urban/suburban health system. Results may not be generalizable to healthcare providers in less integrated health systems, other parts of the country, or rural areas, and further studies should assess unique factors that may impact other providers' willingness to deliver various types of care to the transgender population.

Sample Size

The relatively small sample size precluded the inclusion of all variables of interest in the multivariate analyses. Larger and multisite studies are needed to not only replicate these

findings, but to have adequate power to include all variables of interest. A larger sample may lend itself not only to multi-level modeling to explore the influence of factors such as clinic environment, but also structural equation modeling in order to determine significant pathways between variables of interest and to more thoroughly test the theoretical model.

Instrument

With the exception of the empathetic attitudes and transphobia scales, questions used in this study were modified or created specifically for use in this study. The reason for this is the innovative nature of this work and dearth of literature and measures on which to draw. The general confirmation of the study's theoretical framework through the use of these created measures lends some credence to the validity of the constructed measures. However, the validity and reliability of most questions was not assessed or tested, so future studies should seek to validate the new items and measures created and modified here. In addition, the 3-item empathetic attitudes scale exhibited low internal consistency. This scale was included used nonetheless due to the consistent association between the individual items and the outcome variables.

Future Research

The results of this study suggest a number of potential next steps. First, it is unclear what factors contribute to feelings of capability among providers. Future studies are needed, perhaps qualitative studies, to assess why some providers feel more capable of delivering routine care to transgender patients than others and how feelings of self-efficacy can best be cultivated. In particular, it would be important to assess various aspects of perceived capability, including not only medical knowledge but also perceptions of cultural competence and confidence that providers can interact appropriately and respectfully with transgender patients.

Furthermore, the focus of the survey and this study was a small segment of the transgender continuum. This study focused on male-to-female patients or female-to-male patients; i.e., those most likely to be interested in medical transition services such as hormone therapy. What is also critical to understand is how providers feel about caring for gender-queer and gender non-conforming patients, who may be subject to similar bias and discrimination but who may be more difficult for providers to both identify and understand. Gender non-conforming or genderqueer individuals report avoiding or delaying medical care due to fear of discrimination at higher rates than transgender-identified individuals (Harrison, Grant, & Herman, 2012). Thus, it is critical to understand how providers perceive patients with diverse gender identities and what type of barriers they may face to providing care to gender non-conforming patients who do not identify as transgender and who are not interested in medical transition care.

Finally, although this study measured behavioral intentions, actual provider behavior was not measured. Although intentions are often highly correlated with behavior, they are generally far from perfectly correlated (Kim & Hunter, 1993). Future studies should systematically assess how often providers accept transgender patients versus referring them to other providers or simply refusing them both routine and transition care.

Conclusions

This is the first study to examine whether practicing primary care providers are willing to provide routine care and hormone therapy to transgender patients. Although most primary care physicians and other providers are willing to provide routine care to this patient population, far fewer are willing to provide HT, for a number of reasons which may include both clinical experience and personal reasons. Social workers can help transgender individuals navigate a

healthcare system where they may encounter providers who are not willing to treat them as well as advocate for better access to care for the transgender population.

APPENDIX: PROVIDER SURVEY

Caring for Transgender Patients

This survey is both confidential and voluntary. Results will only be reported in aggregate, and you can stop participating at any time. We are interested in your opinions about and experiences with transgender patients and their medical care.

The following questions are about you. Please choose one answer unless otherwise indicated.

How many years have you been in practice since completing your training?

a) I'm a resident/fellow
b) 0-4
c) 5-9
d) 10-14
e) 15-19
f) 20 or more

1. What is your current age? ___ years

2. Where did you attend high school?
   a) North America or the Caribbean
   b) Middle East
   c) Central or South America
   d) Asia
   e) Africa
   f) Europe
   g) Australasia

3. Which of the following race/ethnicity groups best describes you (check all that apply):
   a) African American or Black
   b) Asian American / Pacific Islander
   c) Latina/o or Hispanic
   d) Native American or American Indian
   e) White or Caucasian
   f) Other _____

4. What is your biological sex?
   a) Female
   b) Male
   c) Other: _____

5. Do you identify primarily as a:
   a) Woman
   b) Man
   c) Other: _____

6. Do you identify primarily as:
   d) Heterosexual
   e) Gay
   f) Lesbian
   g) Bisexual
   h) Other: _____

7. What is your primary religious identity?
   a) Agnostic/Atheist
   b) Christian
   c) Jewish
   d) Muslim
   e) Hindu
   f) Other _____

9. To what extent do you consider yourself a religious person?
   a) Very religious
   b) Moderately religious
   c) Slightly religious
   d) Not religious at all

10. How would you describe your political views?
   a) Very liberal
   b) Liberal
   c) Moderate/middle of the road
   d) Conservative
   e) Very conservative

The next questions are about your personal and clinical experience with transgender individuals.

Before answering the following questions, please consider these definitions:

TERM	DEFINITION
Gender Identity	**A person's innate, deeply felt psychological identification as a man, woman or some other gender, which may or may not correspond to the sex assigned to them at birth**
Transgender Person	**An individual whose gender identity does not conform to what is typically associated with the legal and biological sex to which they were assigned at birth.**
Female-to-Male	**A person who was assigned female at birth but identifies as male**
Male-to-Female	**A person who was assigned male at birth but identifies as female**

11. About how many hours of formal education about transgender health have you had in a medical educational setting (i.e, medical school, nursing or PA school, residency, CME, CEU, etc.)?
___ hours

12. About how many hours of informal education (i.e., reading, self-directed learning, etc.) about transgender health have you had?
___ hours

13. Have you ever met a transgender person?	Yes	No
14. Do you have any acquaintances or colleagues who are transgender?	Yes	No
15. Do you have any close friends or family who are transgender?	Yes	No
16. Have you ever newly prescribed hormone therapy for a transgender patient?	Yes	No
17. Have you ever continued a hormone therapy regimen initiated by another provider for a transgender patient?	Yes	No
18. Have you ever been involved in a patient's transition process (e.g. referrals, lab monitoring, transition-related counseling, etc.)?	Yes	No

19. In the past 5 years, how many transgender patients have you cared for? _____

Below you will find a list of statements. Next to each item, please indicate how much you agree with each statement, using the following scale.

Routine Medical Care for Transgender Patients

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree	Not Applicable
20. I am capable of providing routine medical care to transgender patients.	1	2	3	4	5	6	7	8
21. I am willing to provide routine medical care to male-to-female transgender patients.	1	2	3	4	5	6	7	8
22. I am willing to provide routine medical care to female-to-male transgender patients.	1	2	3	4	5	6	7	8
23. I am willing to perform PAP smears for female-to-male patients.	1	2	3	4	5	6	7	8
24. I am willing to perform digital rectal exams for male-to-female patients.	1	2	3	4	5	6	7	8

Cross-Sex Hormone Therapy for Transgender Patients

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree	Not Applicable
25. I am familiar with the hormonal regimens for female-to-male gender transition.	1	2	3	4	5	6	7	8
26. I am familiar with the hormonal regimens for male-to-female gender transition.	1	2	3	4	5	6	7	8
27. I would continue a gender transition hormone therapy regimen initiated by another provider.	1	2	3	4	5	6	7	8
28. I am willing to initiate hormone therapy for female-to-male patients.	1	2	3	4	5	6	7	8
29. I am willing to initiate hormone therapy for male to-female patients.	1	2	3	4	5	6	7	8

Next to each item, please indicate your level of agreement with each statement, using the following scale.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
30. My colleagues discourage me from caring for transgender patients.	1	2	3	4	5	6	7
31. My administration discourages me from caring for transgender patients.	1	2	3	4	5	6	7
32. Not knowing how to bill for services for transgender people discourages me from taking care of transgender patients.	1	2	3	4	5	6	7
33. Lack of insurance reimbursement discourages me from taking care of transgender patients							
34. My lack of familiarity with guidelines for transition care for transgender patients discourages me from caring for transgender patients.	1	2	3	4	5	6	7
35. My lack of training in transgender-specific care discourages me from caring for transgender patients	1	2	3	4	5	6	7
36. My lack of exposure to transgender patients discourages me from accepting transgender patients.	1	2	3	4	5	6	7
37. Lack of knowledge about transgender patients among my office staff, medical assistants, and/or nursing staff discourages me from caring for transgender patients	1	2	3	4	5	6	7
38. My religious beliefs discourage me from caring for transgender patients.	1	2	3	4	5	6	7

39. If a transgender patient in need of specialty transition care presented to my care today, I would be able to provide an appropriate referral to a local:

a) endocrinologist specializing in transgender care (Yes/No)
b) surgeon specializing in transgender care (Yes/No)
c) mental health provider specializing in transgender care (Yes/No)
d) advocacy or social service agency for the transgender community (Yes/No)

The following questions pertain to your attitudes and feelings towards transgender patients. Please mark the number on the scale below that indicated your level of agreement or disagreement with each statement.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
40. It is necessary for a healthcare practitioner to be able to comprehend someone else's experiences.	1	2	3	4	5	6	7
41. I will not allow myself to be influenced by someone's feelings when determining the best treatment.	1	2	3	4	5	6	7
42. I am able to value someone else's point of view.	1	2	3	4	5	6	7
43. Considering someone's feelings is not necessary to provide patient-centered care.	1	2	3	4	5	6	7

Below you will find a list of statements. Next to each item, please indicate your level of agreement with each statement, using the following scale.

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
44. When I meet someone it is important for me to be able to identify them as a man or a woman.	1	2	3	4	5	6	7
45. I believe that the male/female dichotomy is natural.	1	2	3	4	5	6	7
46. I am uncomfortable around people who don't conform to traditional gender roles, e.g., assertive women or emotional men.	1	2	3	4	5	6	7
47. I believe that a person can never change their gender.	1	2	3	4	5	6	7
48. A person's genitalia define what gender they are, e.g., a penis defines a person as being a man, a vagina defines a person as being a woman.	1	2	3	4	5	6	7
49. I think there is something wrong with a person who says that they are neither a man nor a woman.	1	2	3	4	5	6	7
50. I would be upset if someone I'd known for a long time revealed to me that they used to be another gender.	1	2	3	4	5	6	7
51. I avoid people on the street whose gender is unclear to me.	1	2	3	4	5	6	7

Please indicate whether you believe that the following statements are true or false.

52. Transgender patients using cross-sex hormones should be monitored for endocrine changes every 3 months in the first year and then once per year for the duration of hormone use.

53. The best way to assess which pronoun to use (i.e., he or she) when addressing a transgender patient is to use the sex listed in their medical record.

54. In most cases, Medicaid will pay for gender transition surgery (Gender Reassignment Surgery).

55. The diagnostic criteria for Gender Dysphoria according to the World Professional Association for Transgender Health (WPATH) states that symptoms must be present for at least two years.

56. Failure of treatment with SSRI/SNRIs is required prior to genital surgery.

57. Mental health assessment is needed prior to genital surgery.

58. In most cases, 12 months of hormone therapy is expected prior to genital surgery.

59. Current guidelines for cross-sex hormone treatment for transgender patients are based on a number of randomized controlled trials (Level A evidence) .

60. After mastectomy, female-to-male transgender individuals should continue being screened regularly for breast cancer.

61. A transgender man is someone who was assigned female at birth but identifies as male.

62. Transgender people are at increased risk for suicidal ideation.

63. Transgender individuals are no more likely to be unemployed than the rest of the population.

64. Completing this survey has increased my awareness of transgender people's healthcare needs.

Strongly agree	Agree somewhat	Neutral or undecided	Disagree somewhat	Strongly disagree

65. I am interested in receiving further training about:
transition care for transgender patients (Yes/No)
issues in routine care of transgender patients (Yes/No)
how to provide culturally sensitive care to transgender patients (Yes/No)

66. Do you have any additional comments or thoughts about this survey or treating transgender patients that you would like to share with the research team?

Thank you for completing this survey!

Please provide your name and address so that we can mail your gift card to you. This information will be stored separately from your survey answers and will not be used for any other purpose.

Name: _____
Mailing Address: _____

REFERENCES

Adams, A., Soumerai, S. B., Lomas, J., & Ross-Degnan, D. (1999). Evidence of self-report bias in assessing adherence to guidelines. *International Journal for Quality in Health Care, 11*(3), 187-192.

Advisory Committee on Sexual Orientation, G. I., and Sex Development. (2014). Implementing Curricular and Institutional Climate Changes to Improve Health Care for Individuals Who Are LGBT, Gender Nonconforming, or Born with DSD: American Association of Medical Colleges.

Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes, 50*(2), 179-211.

Bauer, G. R., Hammond, R., Travers, R., Kaay, M., Hohenadel, K. M., & Boyce, M. (2009). "I don't think this is theoretical; this is our lives": How erasure impacts health care for transgender people. *Journal of the Association of Nurses in AIDS Care, 20*(5), 348-361.

Bauer, G. R., Zong, X., Scheim, A. I., Hammond, R., & Thind, A. (2015). Factors Impacting Transgender Patients' Discomfort with Their Family Physicians: A Respondent-Driven Sampling Survey. *PloS one, 10*(12).

Baylor, R. A., & McDaniel, A. M. (1996). Nurses' attitudes toward caring for patients with acquired immunodeficiency syndrome. *Journal of Professional Nursing, 12*(2), 99-105.

Beal, A., Doty, M., Hernandez, S., Shea, K., & Davis, K. (2007). Closing the Divide: How Medical Homes Promote Equity in Health Care. The Commonwealth Fund. June 2007.

Berkman, C. S., & Zinberg, G. (1997). Homophobia and heterosexism in social workers. *Social Work, 42*(4), 319-332.

Bradford, J., Reisner, S. L., Honnold, J. A., & Xavier, J. (2013). Experiences of transgender-related discrimination and implications for health: results from the Virginia Transgender Health Initiative Study. *Am J Public Health, 103*(10), 1820-1829. doi: 10.2105/AJPH.2012.300796

Bursac, Z., Gauss, C. H., Williams, D. K., & Hosmer, D. W. (2008). Purposeful selection of variables in logistic regression. *Source code for biology and medicine, 3*(1), 1.

Center of Excellence for Transgender Health. (2011). Primary Care Protocol for Transgender Patient Care. San Francisco, CA: University of California, San Francisco, Department of Family and Community Medicine.

Chapman, E. N., Kaatz, A., & Carnes, M. (2013). Physicians and implicit bias: how doctors may unwittingly perpetuate health care disparities. *Journal of general internal medicine, 28*(11), 1504-1510.

Chonody, J. M., Woodford, M. R., Brennan, D. J., Newman, B., & Wang, D. (2014). Attitudes toward gay men and lesbian women among heterosexual social work faculty. *Journal of Social Work Education, 50*(1), 136-152.

Coleman, E., Bockting, W., Botzer, M., Cohen-Kettenis, P., DeCuypere, G., Feldman, J., . . . Meyer, W. J. (2012). Standards of care for the health of transsexual, transgender, and gender-nonconforming people, version 7. *International Journal of Transgenderism, 13*(4), 165-232.

Colizzi, M., Costa, R., & Todarello, O. (2014). Transsexual patients' psychiatric comorbidity and positive effect of cross-sex hormonal treatment on mental health: Results from a longitudinal study. *Psychoneuroendocrinology, 39*, 65-73.

Coulter, R. W., Blosnich, J. R., Bukowski, L. A., Herrick, A., Siconolfi, D. E., & Stall, R. D. (2015). Differences in alcohol use and alcohol-related problems between transgender- and nontransgender-identified young adults. *Drug and alcohol dependence, 154*, 251-259.

Davidson, M. (2007). Seeking refuge under the umbrella: Inclusion, exclusion, and organizing within the category transgender. *Sexuality Research & Social Policy, 4*(4), 60-80.

Davis, T. S., Guada, J., Reno, R., Peck, A., Evans, S., Sigal, L. M., & Swenson, S. (2015). Integrated and Culturally Relevant Care: A Model to Prepare Social Workers for Primary Care Behavioral Health Practice. *Social work in health care, 54*(10), 909-938.

De Villiers, T., Pines, A., Panay, N., Gambacciani, M., Archer, D., Baber, R., . . . Langer, R. (2013). Updated 2013 International Menopause Society recommendations on menopausal hormone therapy and preventive strategies for midlife health. *Climacteric, 16*(3), 316-337.

Dentato, M. P., Craig, S. L., Lloyd, M. R., Kelly, B. L., Wright, C., & Austin, A. (2016). Homophobia within schools of social work: the critical need for affirming classroom settings and effective preparation for service with the LGBTQ community. *Social Work Education*, 1-21.

Dowshen, N., Nguyen, G. T., Gilbert, K., Feiler, A., & Margo, K. L. (2014). Improving transgender health education for future doctors. *Am J Public Health, 104*(7), e5-e6.

Eliason, M. J., & Raheim, S. (2000). Experiences and comfort with culturally diverse groups in undergraduate pre-nursing students. *Journal of Nursing Education, 39*(4), 161-165.

Erickson-Schroth, L., Bowers, M. L., & Carmel, T. C. (2015). Transgender surgery. *The International Encyclopedia of Human Sexuality*.

Feldman, J., & Bockting, W. (2003). Transgender health. *Minnesota Medicine, 86*(7), 25-32.

Gardner, I. H., & Safer, J. D. (2013). Progress on the road to better medical care for transgender patients. *Current Opinion in Endocrinology, Diabetes & Obesity, 20*(6), 553-558. doi: http://dx.doi.org/10.1097/01.med.0000436188.95351.4d

Gavaza, P., Fleming, M., & Barner, J. C. (2014). Examination of psychosocial predictors of Virginia pharmacists' intention to utilize a prescription drug monitoring program using the theory of planned behavior. *Research in Social and Administrative Pharmacy, 10*(2), 448-458.

Gierman-Riblon, C. M., & Salloway, S. (2013). Teaching interprofessionalism to nursing students: a learning experience based on Allport's Intergroup Contact Theory. *Nursing education perspectives, 34*(1), 59-62.

Gooren, L. J. (2014). Management of female-to-male transgender persons: medical and surgical management, life expectancy. *Current Opinion in Endocrinology, Diabetes and Obesity, 21*(3), 233-238.

Grant, J. M., Mottet, L., Tanis, J. E., Harrison, J., Herman, J., & Keisling, M. (2011). *Injustice at every turn: A report of the national transgender discrimination survey*: National Center for Transgender Equality.

Grant, J. M., Mottet, L. A., & Tanis, J. (2010). National Transgender Discrimination Survey Report on health and health care. *National Center for Transgender Equality and the National Gay and Lesbian Task Force. Retrieved November, 3*.

Harris, P. A., Taylor, R., Thielke, R., Payne, J., Gonzalez, N., & Conde, J. G. (2009). Research electronic data capture (REDCap)--a metadata-driven methodology and workflow process for providing translational research informatics support. *J Biomed Inform, 42*(2), 377-381. doi: 10.1016/j.jbi.2008.08.010

Harrison, J., Grant, J., & Herman, J. L. (2012). A gender not listed here: Genderqueers, gender rebels, and otherwise in the National Transgender Discrimination Survey. *LGBTQ Public Policy Journal at the Harvard Kennedy School, 2*(1).

Hauke, J., & Kossowski, T. (2011). Comparison of values of Pearson's and Spearman's correlation coefficients on the same sets of data. *Quaestiones Geographicae, 30*(2), 87-93.

Hembree, W. C., Cohen-Kettenis, P., Delemarre-van de Waal, H. A., Gooren, L. J., Meyer III, W. J., Spack, N. P., . . . Montori, V. M. (2009). Endocrine treatment of transsexual persons: an Endocrine Society clinical practice guideline. *The Journal of Clinical Endocrinology & Metabolism, 94*(9), 3132-3154.

Hofmann, D. A. (1997). An overview of the logic and rationale of hierarchical linear models. *Journal of management, 23*(6), 723-744.

Hojat, M., Gonnella, J. S., Mangione, S., Nasca, T. J., Veloski, J. J., Erdmann, J. B., . . . Magee, M. (2002). Empathy in medical students as related to academic performance, clinical competence and gender. *Medical education, 36*(6), 522-527.

Hojat, M., Gonnella, J. S., Nasca, T. J., Mangione, S., Veloksi, J. J., & Magee, M. (2002). The Jefferson Scale of Physician Empathy: further psychometric data and differences by gender and specialty at item level. *Academic Medicine, 77*(10), S58-S60.

Hojat, M., Louis, D. Z., Markham, F. W., Wender, R., Rabinowitz, C., & Gonnella, J. S. (2011). Physicians' empathy and clinical outcomes for diabetic patients. *Academic Medicine, 86*(3), 359-364.

Human Rights Campaign. (2016). Maps of State Laws and Policies. Retrieved May 9, 2016, from http://www.hrc.org/state_maps

Hussey, W. (2006). Slivers of the Journey. *Journal of Homosexuality, 51*(1), 129-158. doi: 10.1300/J082v51n01_07

Jenner, C. O. (2010). Transsexual primary care. *Journal of the American Academy of Nurse Practitioners, 22*(8), 403-408. doi: 10.1111/j.1745-7599.2010.00532.x

Joslin, J. Y., Dessel, A. B., & Woodford, M. R. (2016). Social work students' experiences in a Christianity and sexual minority intergroup dialogue. *Social Work Education*, 1-13.

Kashner, T. M., Hettler, D. L., Zeiss, R. A., Aron, D. C., Bernett, D. S., Brannen, J. L., . . . Dougherty, M. B. (2016). Has interprofessional education changed learning preferences? A national perspective. *Health services research*.

Kelley, L., Chou, C. L., Dibble, S. L., & Robertson, P. A. (2008). A critical intervention in lesbian, gay, bisexual, and transgender health: knowledge and attitude outcomes among second-year medical students. *Teaching & Learning in Medicine, 20*(3), 248-253. doi: http://dx.doi.org/10.1080/10401330802199567

Kenagy, G. P. (2005). Transgender Health: Findings from Two Needs Assessment Studies in Philadelphia. *Health & Social Work, 30*(1), 19-26. doi: 10.1093/hsw/30.1.19

Kenagy, G. P., & Bostwick, W. B. (2005). Health and social service needs of transgender people in Chicago. *International Journal of Transgenderism, 8*(2-3), 57-66.

Keo-Meier, C. L., Herman, L. I., Reisner, S. L., Pardo, S. T., Sharp, C., & Babcock, J. C. (2015). Testosterone treatment and MMPI–2 improvement in transgender men: A prospective controlled study. *Journal of consulting and clinical psychology, 83*(1), 143.

Khalili, J., Leung, L. B., & Diamant, A. L. (2015). Finding the Perfect Doctor: Identifying Lesbian, Gay, Bisexual, and Transgender–Competent Physicians. *Am J Public Health, 105*(6), 1114-1119.

Kiersma, M. E., Chen, A. M., Yehle, K. S., & Plake, K. S. (2013). Validation of an empathy scale in pharmacy and nursing students. *Am J Pharm Educ, 77*(5), 94. doi: 10.5688/ajpe77594

Kim, M.-S., & Hunter, J. E. (1993). Relationships Among Attitudes, Behavioral Intentions, and Behavior A Meta-Analysis of Past Research, Part 2. *Communication research, 20*(3), 331-364.

Kim, S. S., Kaplowitz, S., & Johnston, M. V. (2004). The effects of physician empathy on patient satisfaction and compliance. *Evaluation & the health professions, 27*(3), 237-251.

Larson, E. B., & Yao, X. (2005). Clinical empathy as emotional labor in the patient-physician relationship. *Jama, 293*(9), 1100-1106.

Legal, L. (2014). Creating equal access to quality health care for transgender patients: Lamda Legal.

Lurie, S. (2005). Identifying training needs of health-care providers related to treatment and care of transgendered patients: A qualitative needs assessment conducted in New England. *International Journal of Transgenderism, 8*(2-3), 93-112.

Madden, T. J., Ellen, P. S., & Ajzen, I. (1992). A comparison of the theory of planned behavior and the theory of reasoned action. *Personality and social psychology Bulletin, 18*(1), 3-9.

Massey, D. S., & Tourangeau, R. (2013). Where do we go from here? Nonresponse and social measurement. *The ANNALS of the American Academy of Political and Social Science, 645*(1), 222-236.

Mertler, C. A., & Vannatta, R. A. (2002). *Advanced and multivariate statistical methods*: Pyrczak Los Angeles.

Millstein, S. G. (1996). Utility of the theories of reasoned action and planned behavior for predicting physician behavior: a prospective analysis. *Health Psychology, 15*(5), 398.

Moore, E., Wisniewski, A., & Dobs, A. (2003). Endocrine treatment of transsexual people: a review of treatment regimens, outcomes, and adverse effects. *The Journal of Clinical Endocrinology & Metabolism, 88*(8), 3467-3473.

Nagoshi, J. L., Adams, K. A., Terrell, H. K., Hill, E. D., Brzuzy, S., & Nagoshi, C. T. (2008). Gender differences in correlates of homophobia and transphobia. *Sex roles, 59*(7-8), 521-531.

National Association of Social Workers. (2008). Code of Ethics of the National Association of Social Workers. Retrieved April 7, 2013, from http://www.socialworkers.org/pubs/code/code.asp

Norton, A. T., & Herek, G. M. (2013). Heterosexuals' attitudes toward transgender people: Findings from a national probability sample of US adults. *Sex roles, 68*(11-12), 738-753.

Obedin-Maliver, J. (2015). Time for OBGYNs to Care for People of All Genders. *J Womens Health (Larchmt), 24*(2), 109-111.

Obedin-Maliver, J., Goldsmith, E. S., Stewart, L., White, W., Tran, E., Brenman, S., . . . Lunn, M. R. (2011). Lesbian, gay, bisexual, and transgender–related content in undergraduate medical education. *Jama, 306*(9), 971-977.

Peduzzi, P., Concato, J., Kemper, E., Holford, T. R., & Feinstein, A. R. (1996). A simulation study of the number of events per variable in logistic regression analysis. *Journal of clinical epidemiology, 49*(12), 1373-1379.

Pettigrew, T. F. (1998). Intergroup contact theory. *Annual review of psychology, 49*(1), 65-85.

Poteat, T., German, D., & Kerrigan, D. (2013). Managing uncertainty: a grounded theory of stigma in transgender health care encounters. *Social Science & Medicine, 84*, 22-29. doi: http://dx.doi.org/10.1016/j.socscimed.2013.02.019

Roller, C. G., Sedlak, C., & Draucker, C. B. (2015). Navigating the System: How Transgender Individuals Engage in Health Care Services. *Journal of Nursing Scholarship, 47*(5), 417-424.

Safer, J., & Pearce, E. (2013). A simple curriculum content change increased medical student comfort with transgender medicine. *Endocrine Practice, 19*(4), 633-637.

Sanchez, N. F., Rabatin, J., Sanchez, J. P., Hubbard, S., & Kalet, A. (2006). Medical students' ability to care for lesbian, gay, bisexual, and transgendered patients. *Family Medicine, 38*(1), 21-27.

Shannon, M., & Wang, Y. (2012). Polycystic ovary syndrome: a common but often unrecognized condition. *Journal of Midwifery & Women's Health, 57*(3), 221-230.

Sheridan, S. L., Harris, R. P., Woolf, S. H., & Force, S. D.-M. W. o. t. U. P. S. T. (2004). Shared decision making about screening and chemoprevention: a suggested approach from the US Preventive Services Task Force. *American journal of preventive medicine, 26*(1), 56-66.

Shires, D. A., & Jaffee, K. D. (2015a). Factors associated with health care discrimination experiences among a national sample of female-to-male transgender individuals. *Health Soc Work, 40*(2), 134-141.

Shires, D. A., & Jaffee, K. D. (2015b). Structural Discrimination is Associated With Smoking Status Among a National Sample of Transgender Individuals. *Nicotine Tob Res*. doi: 10.1093/ntr/ntv221

Sperber, J., Landers, S., & Lawrence, S. (2005). Access to Health Care for Transgendered Persons: Results of a Needs Assessment in Boston. *International Journal of Transgenderism, 8*(2-3), 75-91. doi: 10.1300/J485v08n02_08

Spiro, H. (2009). Commentary: the practice of empathy. *Academic Medicine, 84*(9), 1177-1179.

Starfield, B., Shi, L., & Macinko, J. (2005). Contribution of primary care to health systems and health. *Milbank quarterly, 83*(3), 457-502.

Stevens, J. P. (2012). *Applied multivariate statistics for the social sciences*: Routledge.

Stiggelbout, A. M., Van der Weijden, T., De Wit, M., Frosch, D., Légaré, F., Montori, V. M., . . . Elwyn, G. (2012). Shared decision making: really putting patients at the centre of healthcare. *Bmj, 344*.

Sullivan, L. M., Stein, M. D., Savetsky, J. B., & Samet, J. H. (2000). The Doctor–Patient Relationship and HIV-infected Patients' Satisfaction with Primary Care Physicians. *Journal of general internal medicine, 15*(7), 462-469.

Taylor, L. D., Coffey, D. S., & Kashner, T. M. (2015). Interprofessional Education of Health Professionals: Social Workers Should Lead the Way. *Health & Social Work,* hlv082.

U.S. Department of Health and Human Services. (2010). Patient Protection and Affordable Care Act. Retrieved May 9, 2016, from http://www.hhs.gov/healthcare/about-the-law /read-the-law/

Unger, C. A. (2015). Care of the transgender patient: a survey of gynecologists' current knowledge and practice. *J Womens Health (Larchmt), 24*(2), 114-118. doi: 10.1089/jwh.2014.4918

Vance, S. R., Halpern-Felsher, B. L., & Rosenthal, S. M. (2015). Health Care Providers' Comfort With and Barriers to Care of Transgender Youth. *Journal of Adolescent Health, 56*(2), 251-253. doi: 10.1016/j.jadohealth.2014.11.002

Walch, S. E., Sinkkanen, K. A., Swain, E. M., Francisco, J., Breaux, C. A., & Sjoberg, M. D. (2012). Using intergroup contact theory to reduce stigma against transgender individuals: Impact of a transgender speaker panel presentation. *Journal of Applied Social Psychology, 42*(10), 2583-2605.

Wallick, M. M., Cambre, K. M., & Townsend, M. H. (1995). Influence of a freshman-year panel presentation on medical students' attitudes toward homosexuality. *Academic Medicine, 70*(9), 839-841.

Wierckx, K., Mueller, S., Weyers, S., Van Caenegem, E., Roef, G., Heylens, G., & T'sjoen, G. (2012). Long-Term Evaluation of Cross-Sex Hormone Treatment in Transsexual Persons. *The journal of sexual medicine, 9*(10), 2641-2651.

Wilczynski, C., & Emanuele, M. A. (2014). Treating a Transgender Patient: Overview of the Guidelines. *Postgraduate medicine, 126*(7), 121-128.

Wilson, E. C., Chen, Y.-H., Arayasirikul, S., Wenzel, C., & Raymond, H. F. (2015). Connecting the Dots: Examining Transgender Women's Utilization of Transition-Related Medical Care and Associations with Mental Health, Substance Use, and HIV. *Journal of Urban Health, 92*(1), 182-192.

Woodford, M. R., Brennan, D. J., Gutiérrez, L., & Luke, K. P. (2013). US graduate social work faculty's attitudes toward lesbian, gay, bisexual, and transgender people. *Journal of Social Service Research, 39*(1), 50-62.

Xavier, J., Bradford, J., Hendricks, M., Safford, L., McKee, R., Martin, E., & Honnold, J. A. (2013). Transgender health care access in Virginia: A qualitative study. *International Journal of Transgenderism, 14*(1), 3-17.

Zwarenstein, M., Rice, K., Gotlib-Conn, L., Kenaszchuk, C., & Reeves, S. (2013). Disengaged: a qualitative study of communication and collaboration between physicians and other professions on general internal medicine wards. *BMC health services research, 13*(1), 1.

ABSTRACT

FACTORS ASSOCIATED WITH PRIMARY CARE PROVIDERS' WILLINGNESS TO DELIVER ROUTINE AND TRANSITION CARE TO TRANSGENDER INDIVIDUALS

by

DEIRDRE A. SHIRES

August 2016

Advisor: Dr. Kim Jaffee

Major: Social Work

Degree: Doctor of Philosophy

Transgender individuals report being denied healthcare services, but very little is known about primary care providers' (PCP) willingness to deliver either routine or transition care to the transgender community. The purpose of this study is to examine PCP willingness to deliver routine care, continue a hormone therapy (HT) regimen initiated by another provider, and initiate HT for transgender patients using a theoretical framework informed by the Theory of Planned Behavior and Intergroup Contact Theory. The study sample was all family medicine, internal medicine, and women's health providers in a large integrated Midwestern health system. Eligible participants were emailed a unique link to an online survey assessing clinical and personal exposure to transgender individuals, empathetic attitudes, transphobia, self-efficacy, willingness to deliver care, and socio-demographics. While the majority of providers were willing to provide routine care to transgender patients, only half (53%) were willing to continue HT and even fewer (22%) were willing to initiate HT. Factors that increased the odds of willingness to provide routine care included personal exposure to transgender individuals

and feelings of capability. Being Christian or Jewish, personal and clinical exposure to transgender individuals, decreased transphobia, and familiarity with HT regimens increased the odds of willingness to continue HT. Familiarity with HT and reporting insurance barriers increased the odds of willingness to initiate HT. Both cultural and policy shifts and provisions of the ACA will increase access to care for transgender patients; in order for healthcare systems to adapt, both medical education and social work education should address cultural competence issues around transgender care.

AUTOBIOGRAPHICAL STATEMENT

Deirdre A. Shires received her Bachelor of Science degree in Psychology from Michigan State University, her Master of Social Work degree from the University of Michigan, and her Master of Public Health degree from the University of Illinois at Chicago. She joins the faculty of the School of Social Work at Michigan State University in the Fall of 2016.